

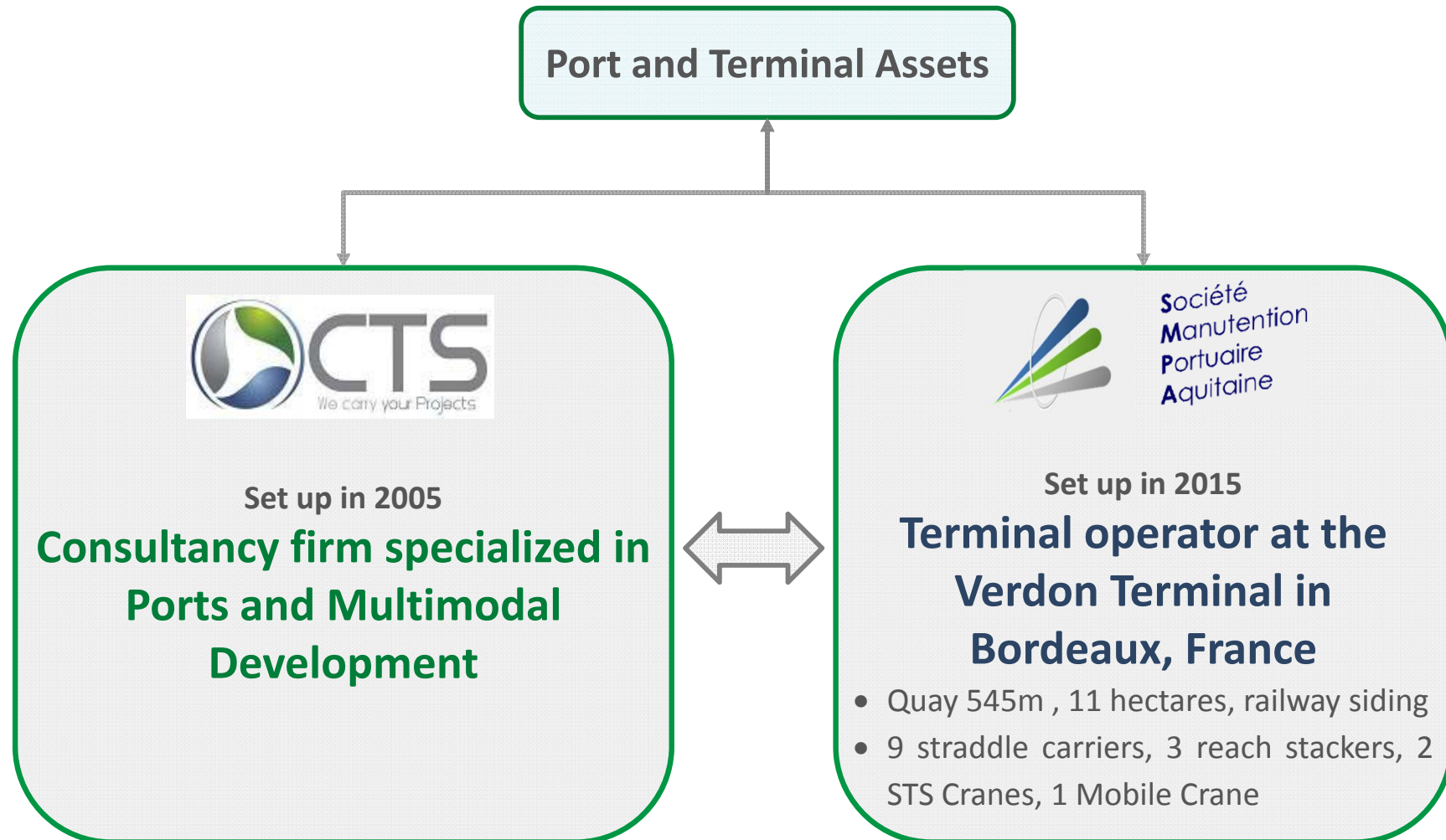
# 10th Indian Ocean Ports & Logistics 2016 Meeting

## Transshipment Opportunities in Indian Ocean



CTS Consulting,  
conseil en logistique portuaire et  
multimodale

# A fully independent Consultancy firm combined with a Terminal Operator



# Our expertise

## **PORT |**

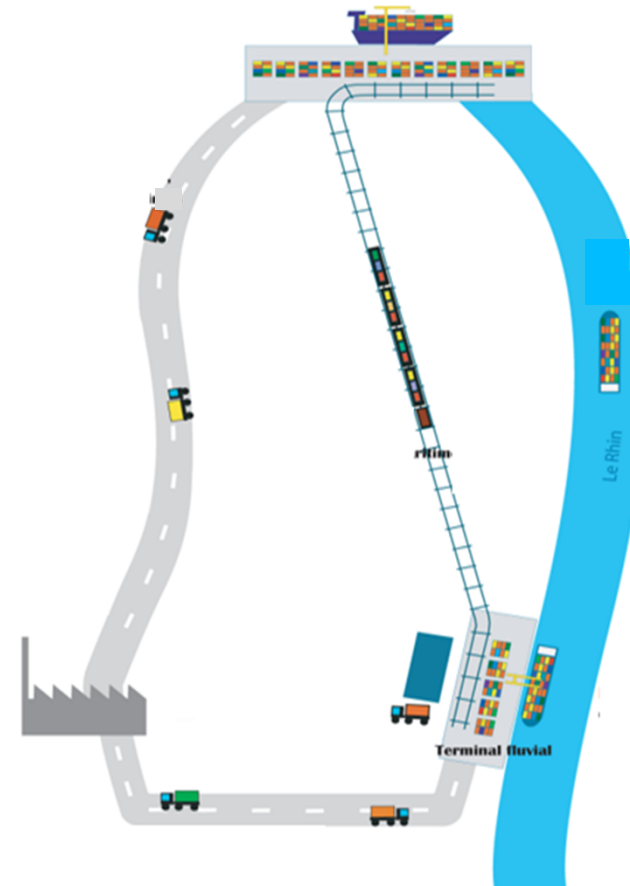
Historically focused on the **container industry**, CTS has a track record of more than **50 container terminal projects**.

## **MULTIMODAL |**

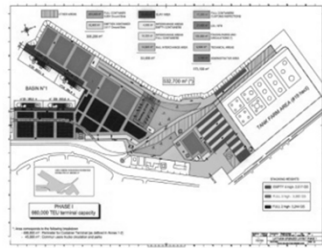
In response to **environmental concerns**, public and private players of the freight transportation market are looking for **new solutions to shift their road flows to rail or barge**. CTS acquired a in-depth know-how in the **definition and implementation of multimodal projects**.

## **LOGISTICS |**

CTS recently launched a new activity related to the development of multimodal services. We are now offering to **shippers and forwarders the analysis of their supply chain**.



# Our fields of expertise



## Port terminal



- ⦿ **Master plans**
- ⦿ Infrastructure plans
- ⦿ Operational design
- ⦿ Equipment specialization
- ⦿ Environment



## Multimodal platform



- ⦿ **Financial analysis**
- ⦿ Business plan
- ⦿ **Market studies**
- ⦿ Strategic analyses
- ⦿ Socio-economic impacts
- ⦿ **PPP drafting and negotiation**
- ⦿ Tender management
- ⦿ Partnerships



## Logistics



# Our missions

## Market and strategy analysis

- ▶ In-depth industry studies from a transport and supply chain point of view
- ▶ Economic development forecasts and impact on ports
- ▶ Traffic analyses and forecasts
- ▶ Interview campaigns of shippers, consignees, forwarders and others
- ▶ Port benchmarks
- ▶ Strategic positioning
- ▶ SWOT analyses

## Technical and operational design

- ▶ Due diligence of ports and logistic organizations: audit, performance analysis, Key Performance Indicators (KPI)
- ▶ Technical modelling: layouts, operational concepts, equipment specifications, maritime & hinterland interfaces
- ▶ Definition of multimodal service parameters according to characteristics of the market and customers' needs: cost, transit time, deadweight tonnage...
- ▶ Master plans: quay and yard design, definition and planning of infrastructure, equipment, manning, IT...

## Financial modelling

- ▶ Cost and revenue analyses for port operators or port authorities: capital expenditures, operational expenditures, wages, depreciation...
- ▶ Definition of the tariff policy: revenues, tickets and license fees...
- ▶ Calculation of profitability ratios: NPV, ROI, payback period...

## PPP contract assistance

- ▶ Assistance during PPP processes for both public (landlord) and private (candidate) clients
- ▶ Preparation of EOI, RFQ, RFP
- ▶ Creation of decision-making tools
- ▶ Selection of candidates
- ▶ Assistance during negotiation of contract terms
- ▶ Partnership assistance

## Summary

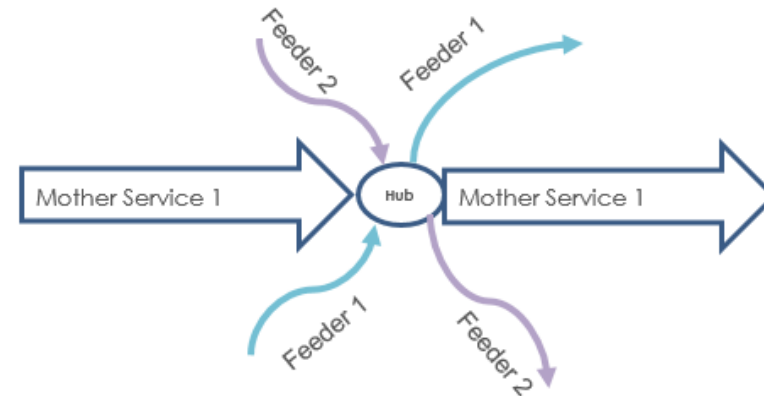
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- ▶ *What type of Transshipment Traffic and Port ?*
- ▶ *What interests/risks for the parties in Transshipment Traffic ?*
- ▶ *Drivers to develop a sound Transshipment Hub*
- ▶ *Opportunities in Indian Ocean for Transshipment hub*

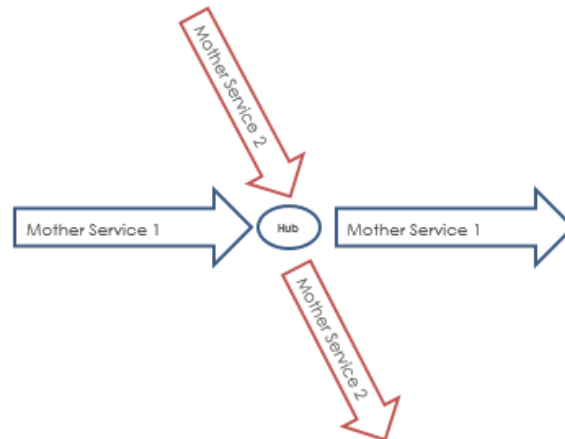
# What is a Transshipment hub ?

## ► Type of Transshipment Port/traffic

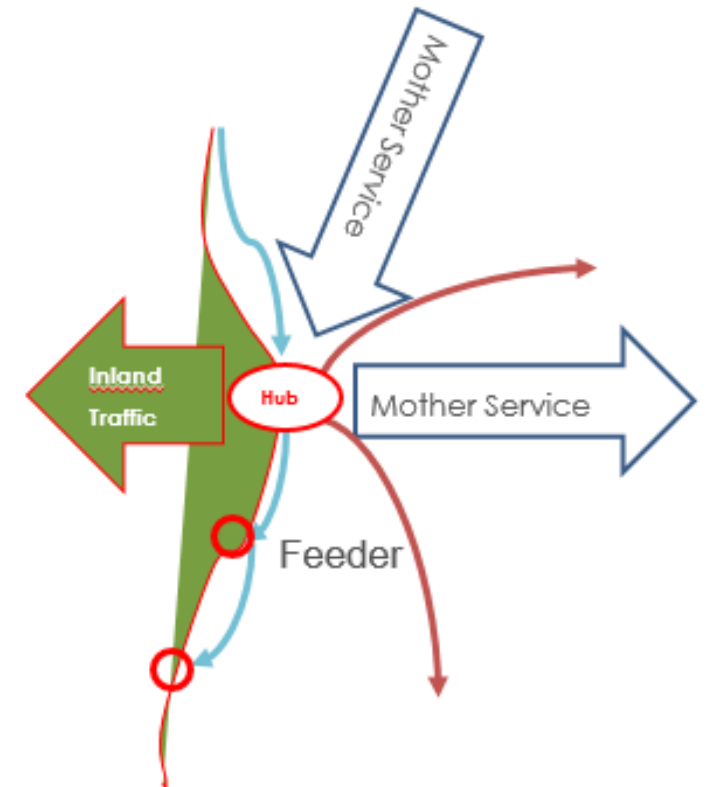
### ► Hope and Spoke



### ► Relay



### ► Mixed Import/Export and Transshipment



*Combination of Import/Export traffics and Transshipment: Almost all terminals in Europe*

## Summary

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# What interests for the parties in Transshipment development ?

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## ▶ *Shipping Lines*

- Increase market coverage and rationalize the vessels deployment
- Increase competitiveness on local market (direct deep sea services)

## ▶ *Terminal Operators*

- Increase volume to benefit from the economy of scale

## ▶ *Port Authorities*

- Support traffic growth
- Develop maritime services calling the port

## ▶ *Shippers/Consignees*

- More deep sea services (Low freight rate)
- More maritime services (more opportunities for import/export)

# What constraints for the parties in Transshipment development ?

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## ▶ *Shipping Lines*

- Costs increase (additional handling)
- Risk in service quality (transshipment, connection between services)

## ▶ *Port Authorities*

- Require infrastructure and equipment to handle larger vessels (investments)

## ▶ *Terminal Operators*

- Low tariff => small marge
- Require more ressources: equipment and labor to operate larger vessels and volumes per call (Capex and Opex)

## ▶ *Shippers/Consignees*

- Impact on import/export services quality ?

## Summary

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# Drivers to develop a sound Transshipment Hub

▶ *Transshipment Traffic is 100% under control of shipping lines*

*(Versus Gateway traffic is 100% controlled by shippers/consignees)*

⇒ *Shipping lines must get primary interest in Transshipment hub.*

⇒ *Main drivers to develop Transshipment hub*

⇒ No deviation from main maritime route

⇒ Capacity to operate Ultra Large Container Vessel (schedule integrity)

⇒ Capacity to welcome large volume per call (without penalising land service)

⇒ High handling productivity (Berth productivity > 100 Mvts/hr ++)

⇒ Low tariff

# Summary

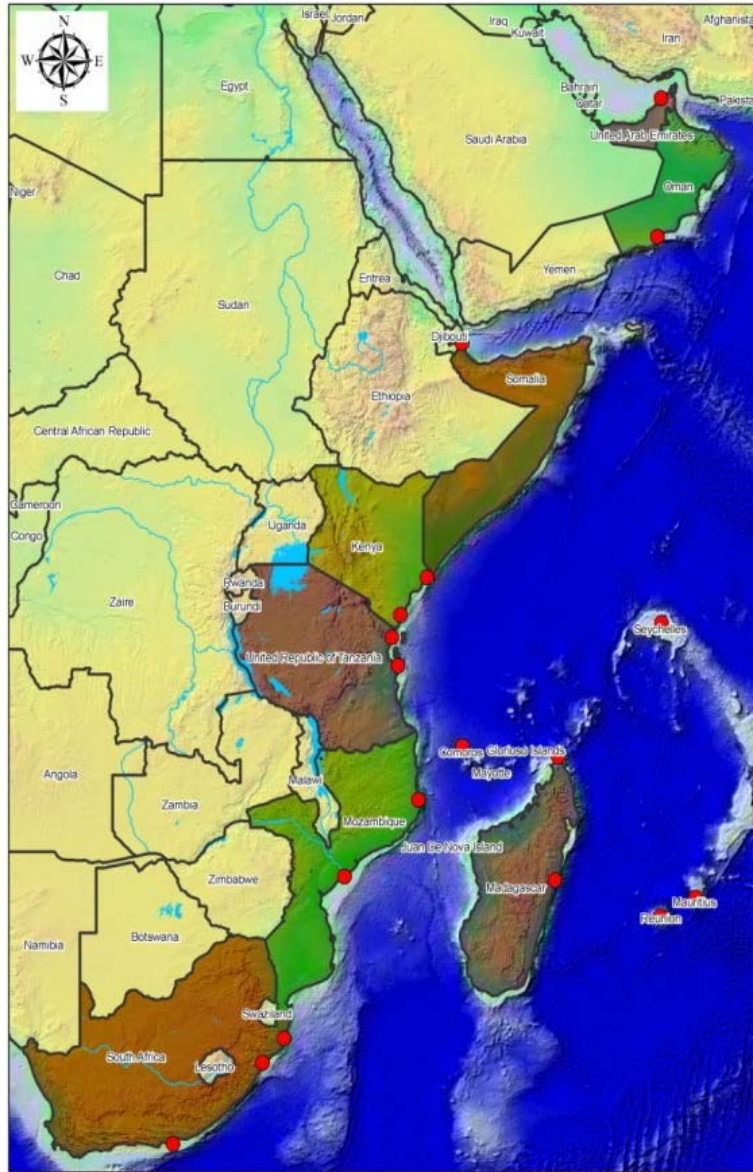
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# Opportunities in Indian Ocean for Transshipment hub



# Ports of the Indian Ocean Region



Country	Port
South Africa	Durban
	Richards Bay
	Ngqura
Mozambique	Maputo
	Beira
	Quelinane
	Nacala
Tanzania	Dar es Salaam
	Mwara
	Tanga
Kenya	Lamu
	Mombassa
Madagascar	Taomasina
	Antsirana
Port Louis	Mauritius
Seychelles	Victoria
Comoros	Moroni
Reunion	Reunion
Djibouti	Djibouti
Oman	Salalah
UAE	Dubai

# Examples of maritime services in Indian Ocean Region



Europe -Med -Gulf - India - Indian Ocean Islands



Service Maersk M-Express : Indian Ocean Islands and Mozambique to Far East



MOZEX



Service Maersk M-Express : Far East to Indian Ocean Islands and Mozambique



Indian Ocean Feeder

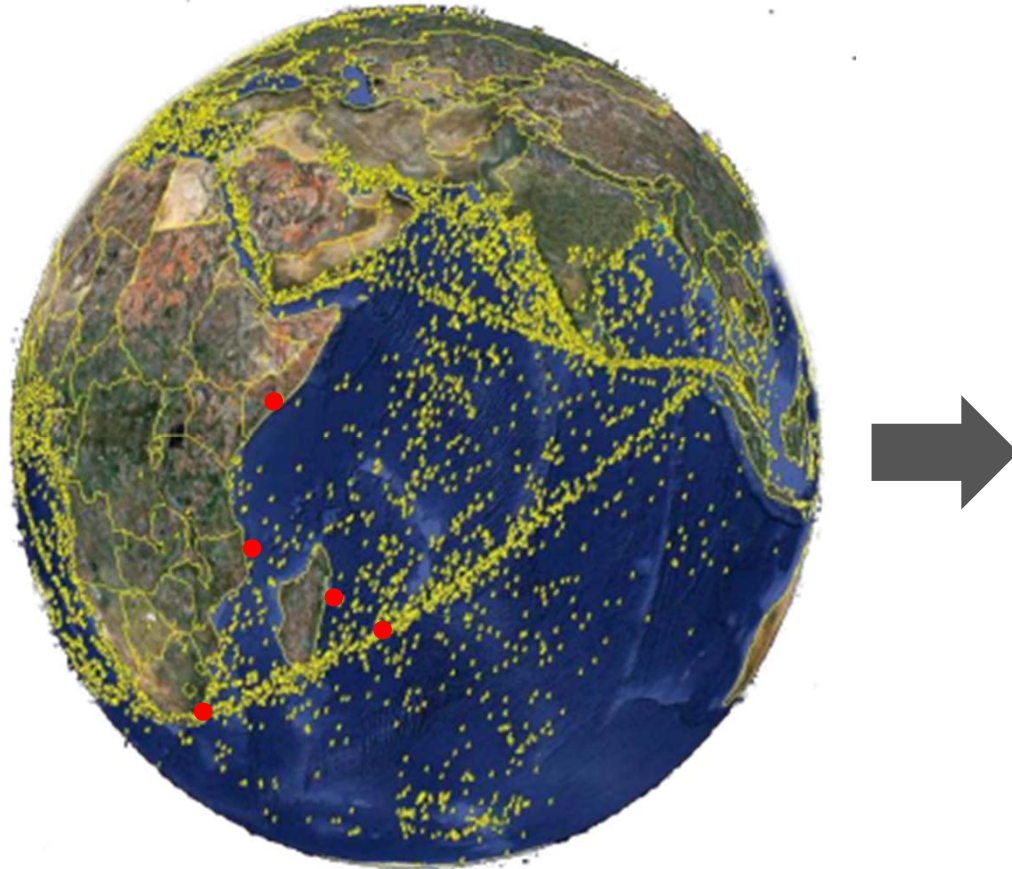


Service Maersk MISA



# Opportunities in Indian Ocean for Transshipment hub

- ▶ *Primary Driver for T/S Hub : limited Deviation to main Maritime routes*



Transshipment Hub must be located on main maritime routes :

## **On main trade Asia to Africa:**

- Mauritius / La Réunion, South Madagascar, South Africa get the best localisation for Transshipment Hub

## **On second trade Europe to Africa:**

- East African Ports and West Madagascar can be an opportunity for Transshipment Hub

# Opportunities in Indian Ocean for Transshipment hub

## ► Second Driver for T/S Hub Capacity of the Infrastructure

Port	Localisation	Depth (m)	Container Berth length (m)	Transshipment
Tamatave/Toamasina	Madagascar	14	325	No
Victoria	Seychelles	11,5	370	Yes
Port-Réunion	La Réunion	15,5	640	Yes
Longoni	Mayotte	11,5 14	130 223	Yes
Port Louis	Maurice	14	800	Yes
Durban	Afrique du Sud	12,5	1900	Yes
Ngqura	Afrique du Sud	16,5	640	Yes
Port Elizabeth	Afrique du Sud	12,2	635	Yes
Mutsamudu	Comores	9	173	Yes
Dar es Salam	Tanzanie	10,4	720	No
Pemba	Mozambique	8,5	182,5	No
Nakala	Mozambique	12	395	No
Maputo	Mozambique	11	300	No
Beira	Mozambique	8,4	645,5	No
Mombassa	Kenya	12,5	840	No

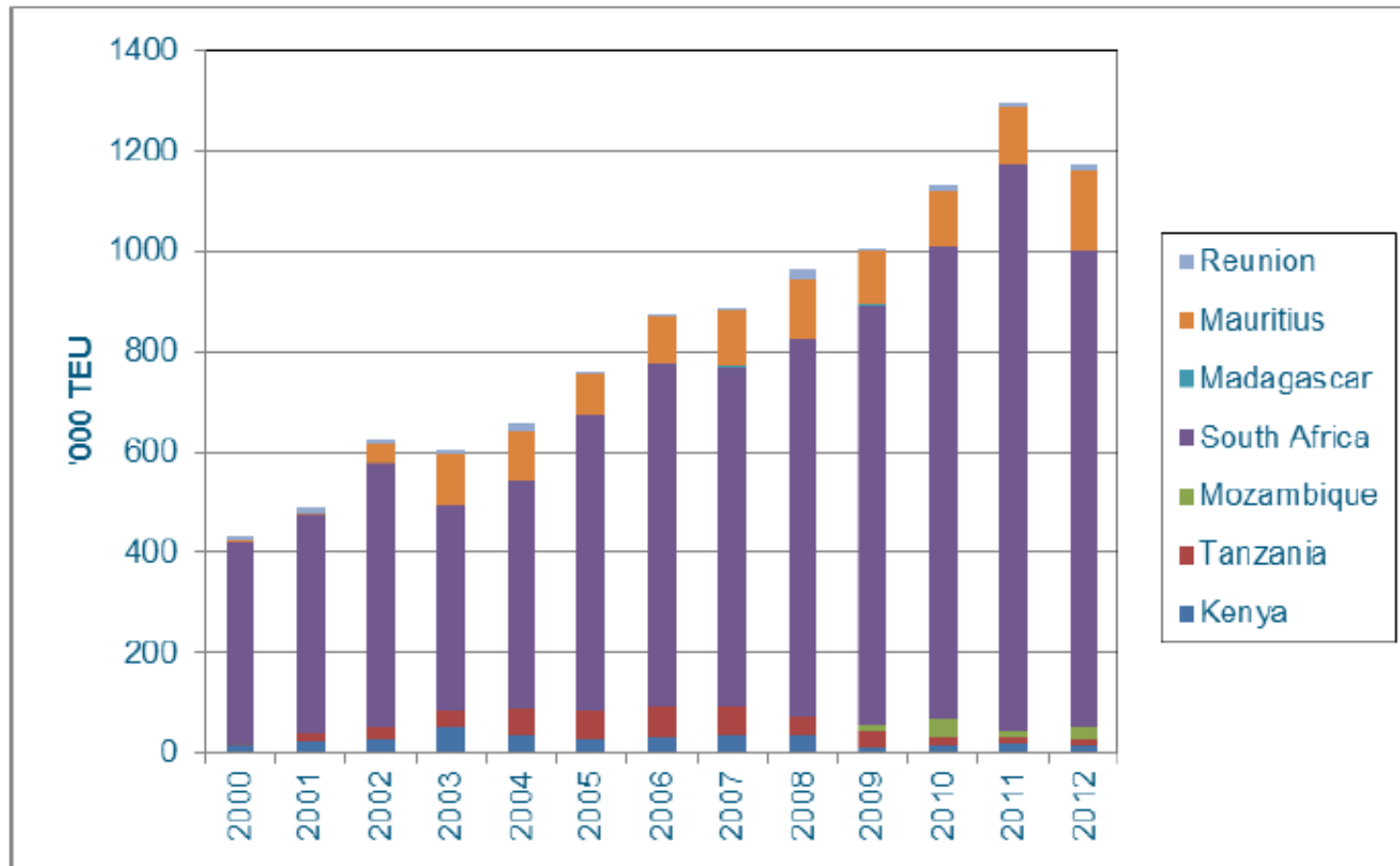


To welcome mother services, a minimum depth of 12 m on minimum 300m berth is required:

- Tamatave
- Port Réunion
- Port Louis
- Durban
- Ngqura
- Port Elizabeth
- Nakala
- Mombassa

# Opportunities in Indian Ocean for Transshipment hub

## ► *Transshipment activity*



► *South Africa Ports and Mauritius are the most active in Transshipment nowadays.*

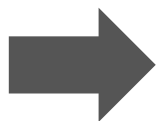
# Opportunities in Indian Ocean for Transshipment hub

## ▶ Third Driver for T/S Hub : Productivity

Top 10 transshipment ports based on average 2012 container moves. Rankings based on average moves per hour while ship is in port.

PORT	COUNTRY	BERTH PRODUCTIVITY*
Qingdao	China	96
Shanghai	China	86
Jebel Ali	United Arab Emirates	81
Busan	South Korea	80
Khor al Fakkan	United Arab Emirates	74
Salalah	Oman	72
Hong Kong	China	68
Westport/Port Klang	Malaysia	66
Tanjung Pelepas	Malaysia	63
Rotterdam	Netherlands	63

Source: JOC Port Productivity Research



**Berth Productivity\* cannot be less than 70 containers/hour**

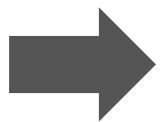
\* *Berth Productivity: Starts when vessel is alongside, ends when operations are completed*

# Opportunities in Indian Ocean for Transshipment hub

## ► *Fourth Driver for T/S Hub : Tariff*

### Depend on:

- Deviation of maritime route
- Productivity
- Type of port: Pure Transshipment or Mixed port (T/S + Gateway)
- Social environment
- Volume



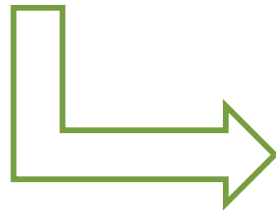
**Pure Transshipment : Benchmark ~USD 70 Full Cycle**

**Mixed port (T/S + Gateway): ~USD 120 Full Cycle \***

*\* To be assessed on case by case (many parameters are to consider)*

# Opportunities in Indian Ocean for Transshipment hub

- ▶ *Type of Transshipment to develop in Indian Ocean*
  - **Serve Gateway and develop T/S (Mixed port)**
  - **Use « mother services » as « Feeder »**

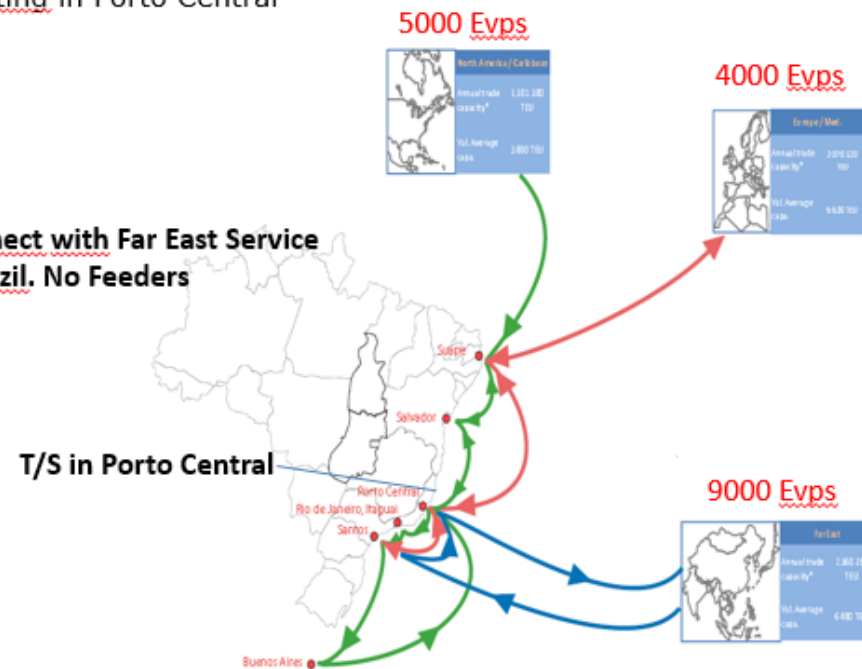


## Implementation of a Hub in Porto Central



- ▶ Illustration of a concept : « Use Mother service as feeder » connecting in Porto Central

**US East Coast Service Connect with Far East Service to serve small ports in Brazil. No Feeders**





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