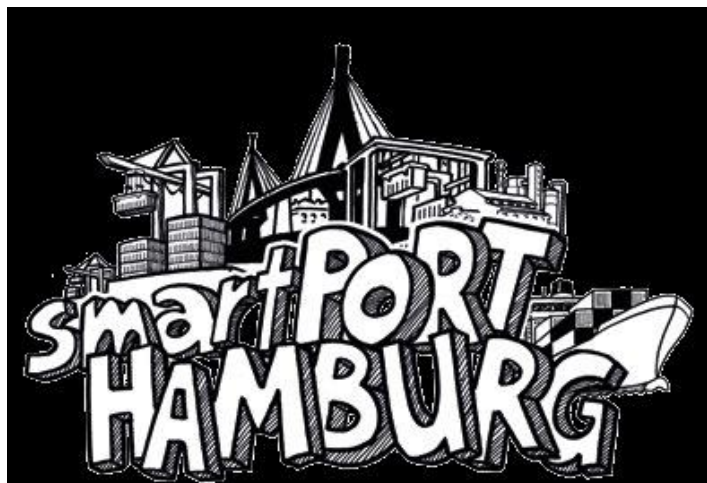


# Smarter, Greener & Safer: Port Authorities and the Internet of Things

Dr. YANN ALIX  
General Delegate  
SEFACIL Foundation  
Le Havre – France



IX Meeting of the Inter-American Network  
Of Single Windows for Foreign Trade  
and Trade Facilitation  
Sept. 7th & 8th 2017 MONTEVIDEO – URUGUAY

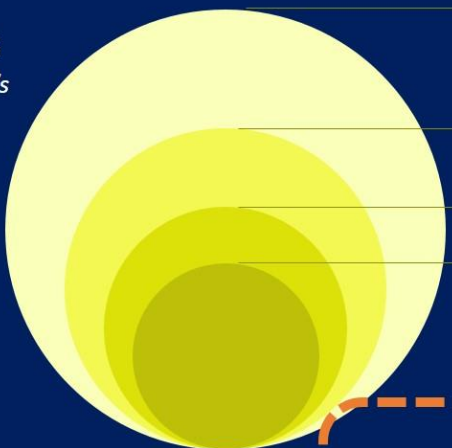


IT, IoT, IoE, IA.... Whatever means the i...

Ports have to move forward with Information, Intelligence... and Internet !

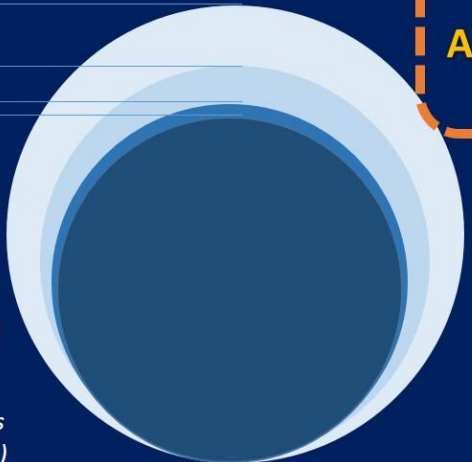
Smarter, Greener & Safer  
is not an option  
or a marketing tool...  
It is a MUST HAVE...  
to survive !

**Global Liner Shipping Operators**  
*(More than 1,5 millions TEU's fleet capacity in 2016)*



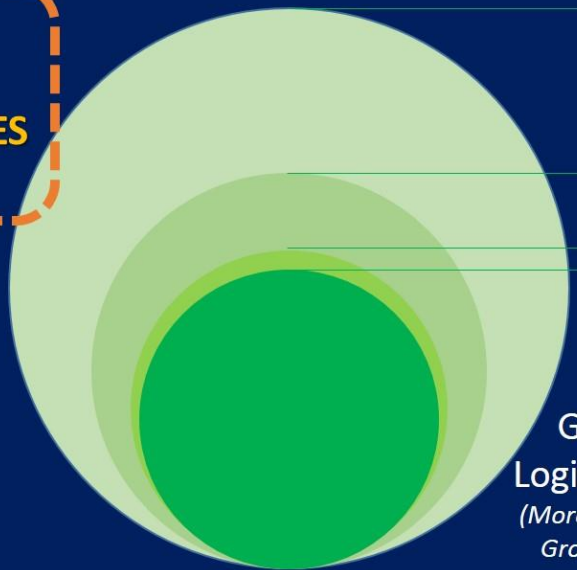
- Maersk Line & H. Süd
- MSC Shipping Cie
- CMA – CGM Group
- COSCO Shipping

- Hutchison Ports
- COSCO Ports
- PSA International
- DP World



**Global Terminal Operators**  
*(More than 60 millions TEU's Handled in 2015)*

**PORT AUTHORITIES**



- DHL
- Kuehne & Nagel
- DB Schenker
- Nippon Express

**Global Freight Logistics Operators**  
*(More than 15,000 millions Gross Revenue in 2015)*

Dr. Yann ALIX  
February 2017



... Because "The global" market wants to... and your clients/customers too !

## SMART GLOBAL VALUE CHAIN

*Producers: Shippers/ Logistics Inland Terminal Shipping*  
*Buyers Distributors Integrator Carriers Operators Lines*

**PORT AUTHORITY AS A « SMART GVC MC »**  
*(with Customs, Phyto, Revenue, and so on...)*

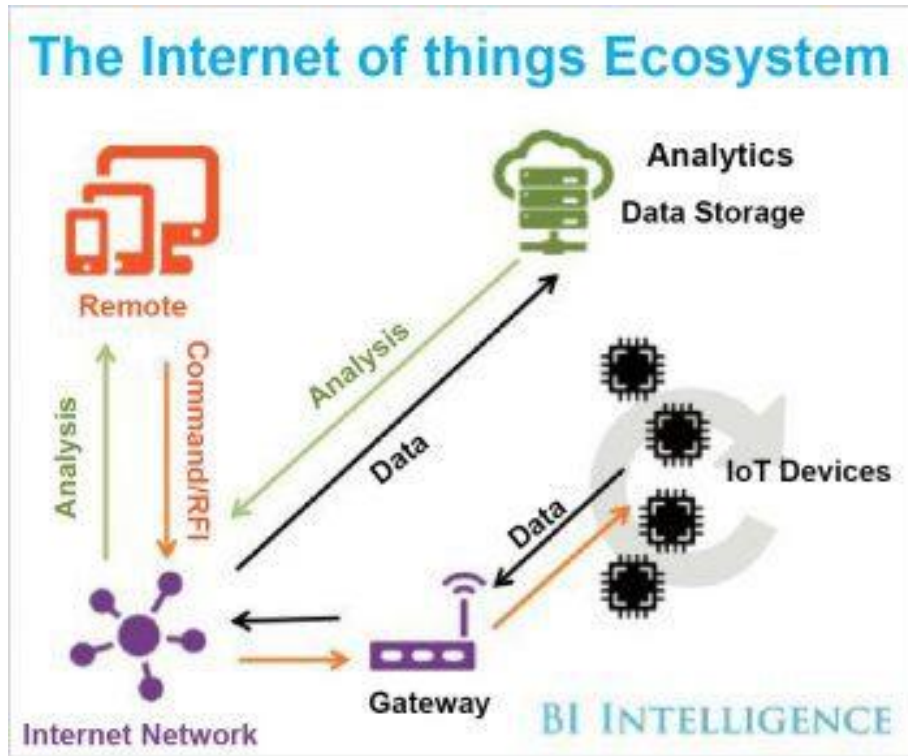


**BUSINESS/REVENUES  
OPPORTUNITIES  
+  
FIRST MOVER  
JACKPOT**

**E-Commerce  
new practices**

**Final  
consumers'  
expectations**

... Because a Port Ecosystem deals with millions of data, devices and clients !



**DATA DATA DATA**

**interconnectivity / flexibility / transparency / fluidity / efficiency**



And because serious People are advocating to see ports doing quite much more than they are proposing now...



portstrategy

**Carly Fields**  
Experienced Maritime Editor



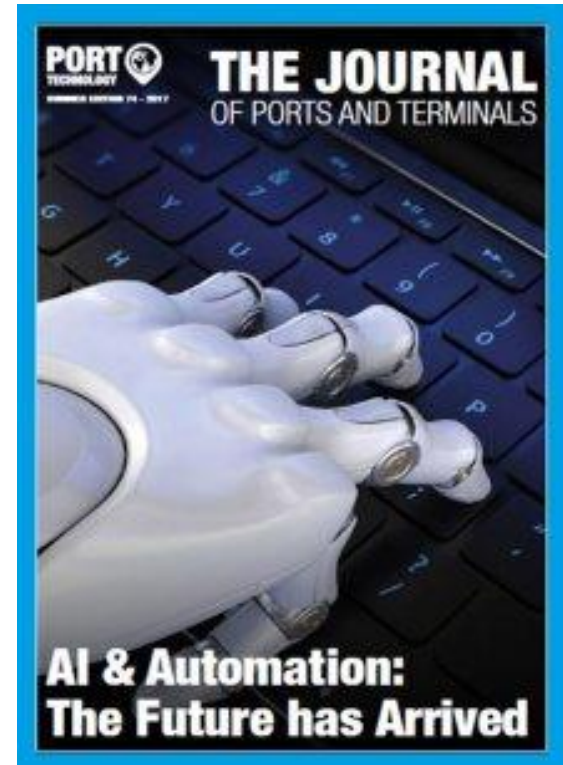
**'Dumb, dark and disconnected'...  
ports need to do more**



Eleni Pittalis  
Commodities associate

**Amazon vs Maersk: The clash of  
titans  
shaking the container industry**

August 18, 2017 05:01

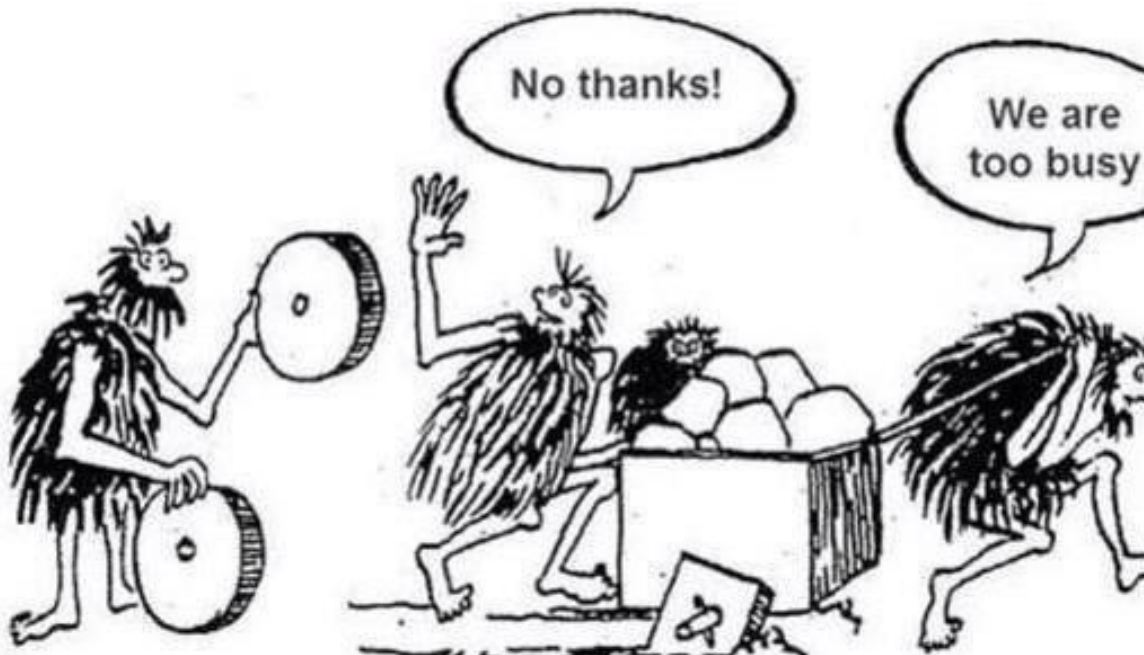


# There is no IoT Port Toolkit box with cut & paste solutions...

**CONSCIOUSNESS**  
Task force / Group of Interest / Hackathon

**WILLINGNESS**  
Road Map / Priorities / IoT Steering Committee

**STRATEGY**  
Objectives / KPI / Vision



**METHODOLOGY**  
**TOOLS**  
**PROOF OF CONCEPT**  
**CASE STUDIES**  
**RESULTS 2.0**

# Few samples among others in Western Europe : Port of Hamburg & HAROPA



**WHY IoT :**  
**TO IMPROVE PORT INFRASTRUCTURE  
&  
TO ENHANCE THE QUALITY OF LIFE  
OF PEOPLE LIVING IN HAMBURG**

**HOW IoT :**  
**SYSTEMS OF SYSTEMS by CISCO / HPA  
SMARTER DECISIONS BY CUSTOMERS &  
PEOPLE...**

SMART is not just money, profitability, ROI...

**MOBILITY / ENERGY / BUILDINGS / INFRASTRUCTURE**

... SMART means as well quality, philosophy, health, environment, etc !



# Few samples among others in Western Europe : Port of Hamburg & HAROPA



## ON-TIME & SMART MANAGEMENT of

- RAIL
- ROAD
- WATERWAYS TRAFFICS

By intelligent sensors able to provide Interactive mapping for supporting decision made by multimodal carriers as well as citizens living, working or just « crossing » the port

SMART does not (only) mean IT...

Collective brain & mutual effort

Human capital investment

Change management process

Co-production & co-generation of services & solutions ...



# HAROPA

Matching Logistics Performance & Environment Integration thanks to IoT

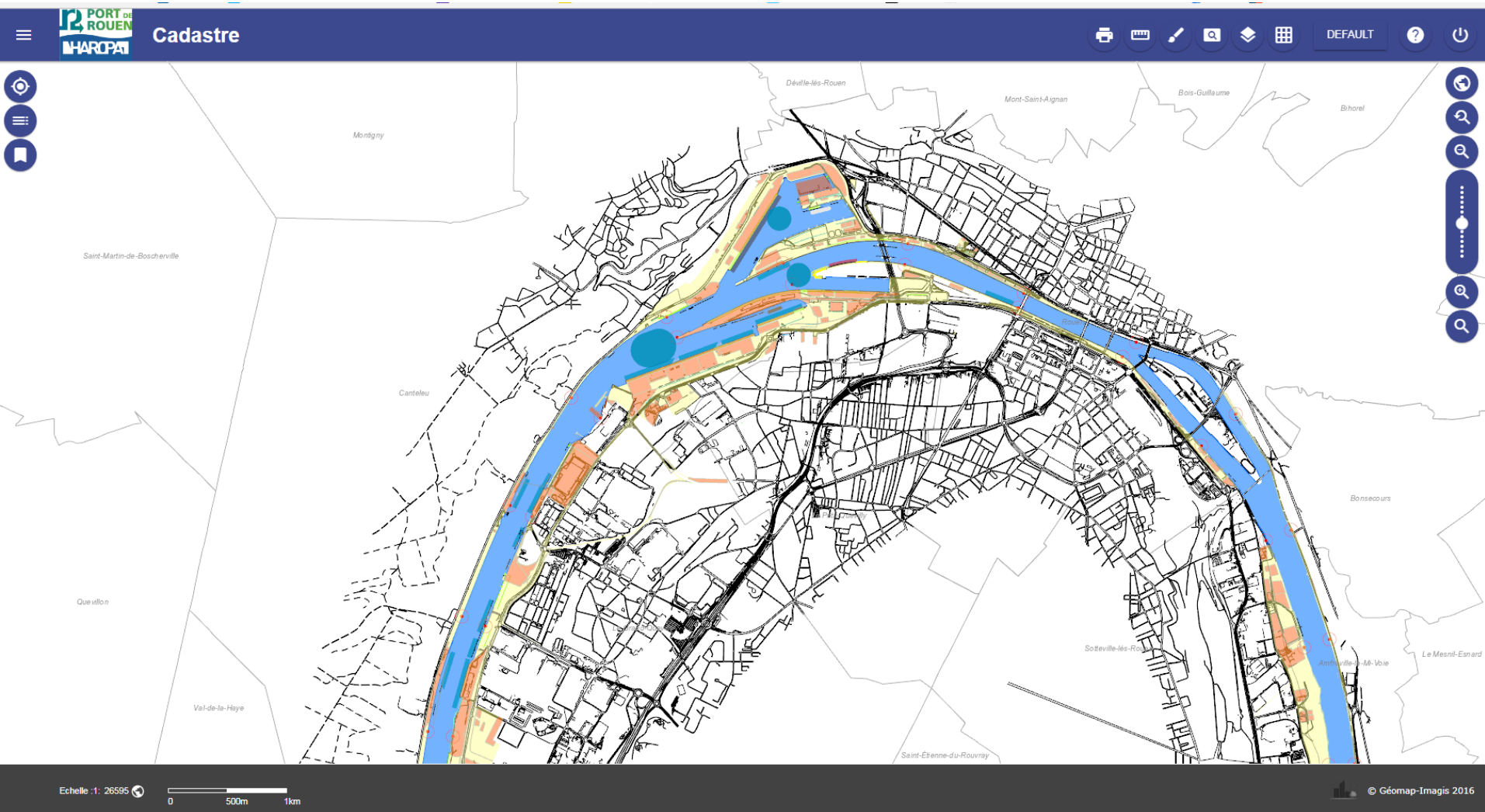


**#1 Logistics Performance:** new kind of services to serve our inland clients' competitiveness

**#2 Environmental Performance:** keep developing industrial port activities but better monitored & well integrated into the metropolitan area

# HAROPA

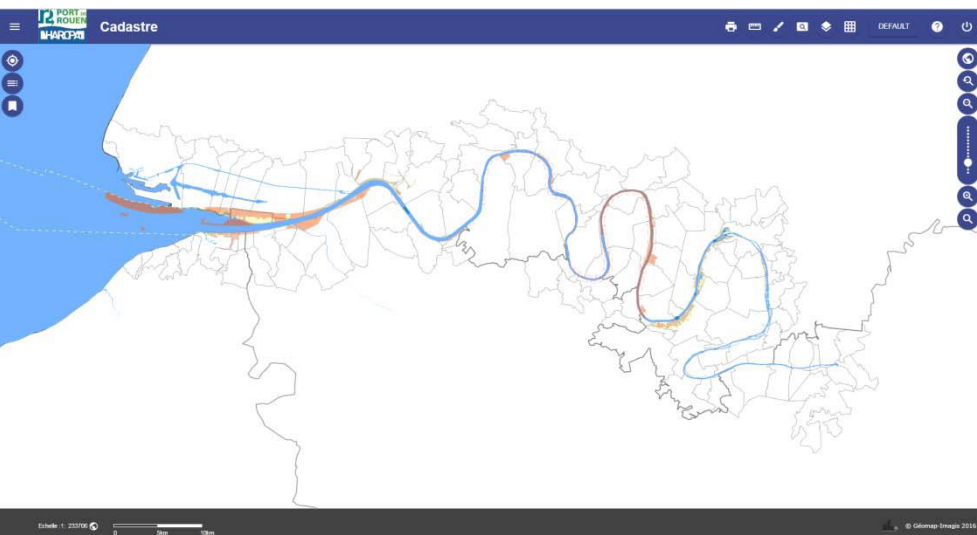
One example among others : the “open-source” River Information System





# HAROPA

One example among others : the “open-source” River Information System





# HAROPA

One example among others : *RealEstate* by HAROPA



**Recherche**

Type de bien  
Tous

Prix  
Tous

Département  
Tous

Lancer la recherche

## Ref. 3829 - A louer Bureaux 197 m<sup>2</sup> au port de Gennevilliers (92) - C46

Type de produit : Bureau  
Surface : 197 m<sup>2</sup>  
Code postal : 92230  
Ville : Gennevilliers  
Disponibilité : Immédiate  
Publié le : 23 Février 2017  
Durée minimale de publication : 6 semaines

[Nous contacter](#)  
[Fiche PDF](#)

Comparaison : [Ajout à la liste](#) [Voir la liste](#)



A LOUER au port de Gennevilliers (92), à 15 min de Paris, bureaux de 197 m<sup>2</sup> en RDC sur site surveillé avec contrôle d'accès, centre de vie et de restauration. Navette transports en commun reliée au réseau RATP. Exemption de certaines taxes fiscales et frais d'entretien de site. Ports de Paris propose une ristourne sur le loyer en cas de transport de marchandises par voie d'eau.



# HAROPA

One last example but not so much original... OPEN MINDS OPEN PORTS!

# HACKATHON

<SMART PORT VALLÉE DE SEINE/>



**18&19** NOVEMBRE 2016 À l'**ENSM** 10 Quai Frissard Le Havre

OPEN MINDS, OPEN PORTS!  
#SPH2016  
www.smartharopa.com



#SPH2016  
www.smartharopa.com



# TEAM UP' : Port authorities cannot do alone... against cyberterrorism !



**\$ 655 billion** to be spent on cybersecurity up to 2020

source : BI Intelligence

**@ 50 000 000 000** of devices connected in less than 10 years

**+270%** cyberattacks since January 2015

Source : Adaptation from UNECE publication



# Stronger & smarter together to anticipate GVC challenges

**#1** for Trading Across border  
Doing Business Index by The WB



**# 1** in PCS Worldwide

**#5** Largest Port complex  
of Europe



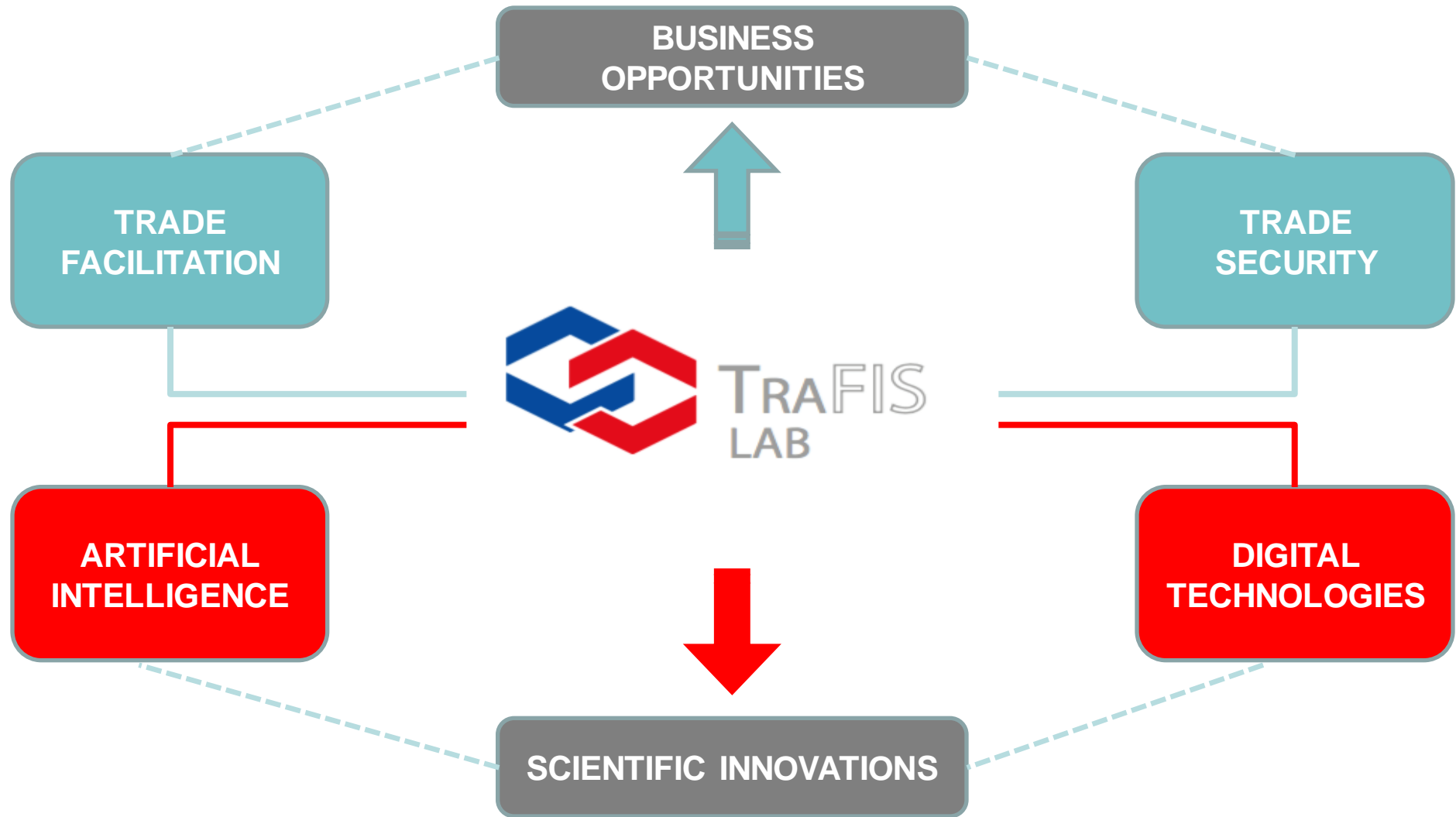
TRAFIS  
LAB



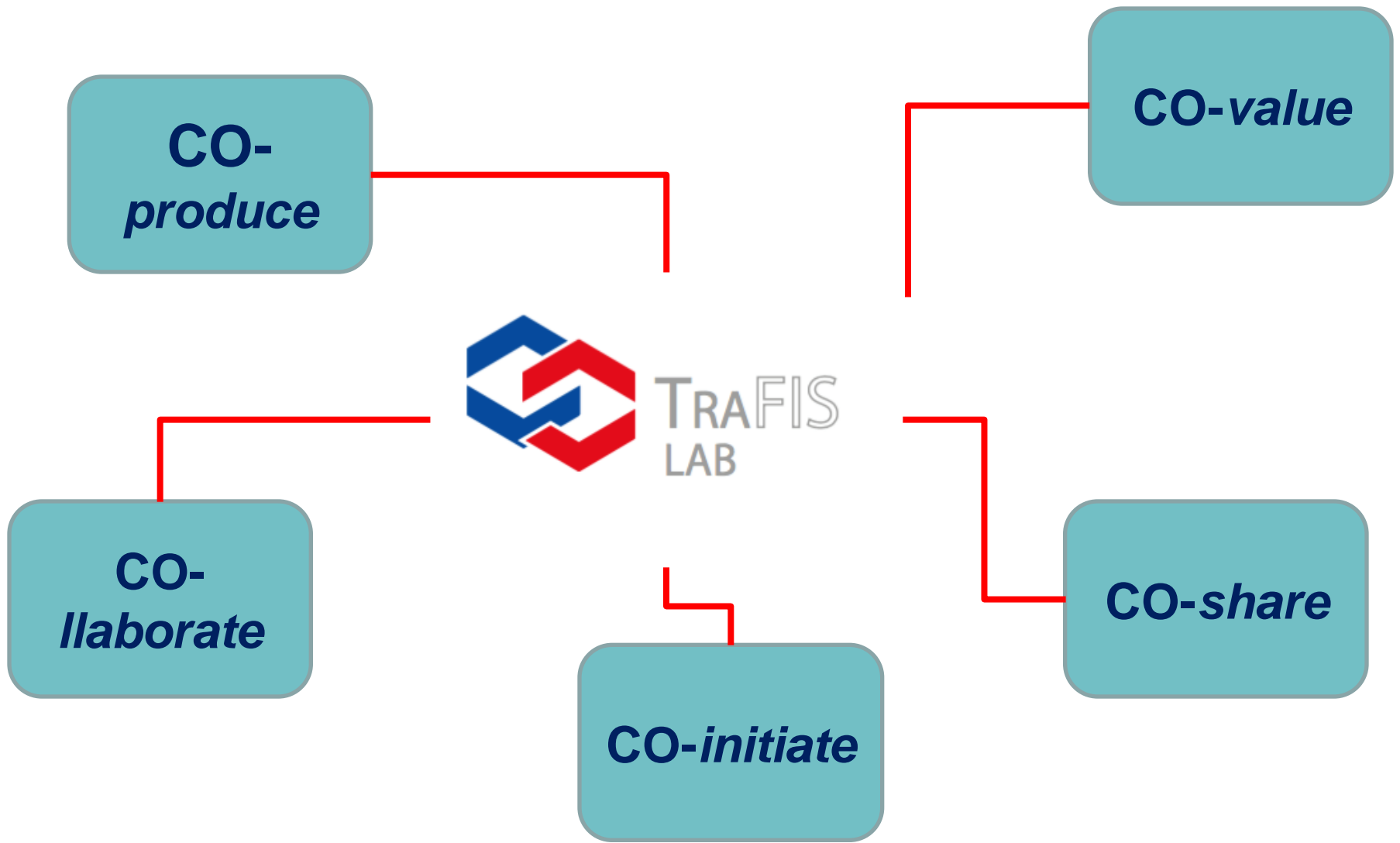
**# 1** French Logistics  
Engineering School

# TRAFIS LAB

Creating bridges between scientific Kn & Business opportunities



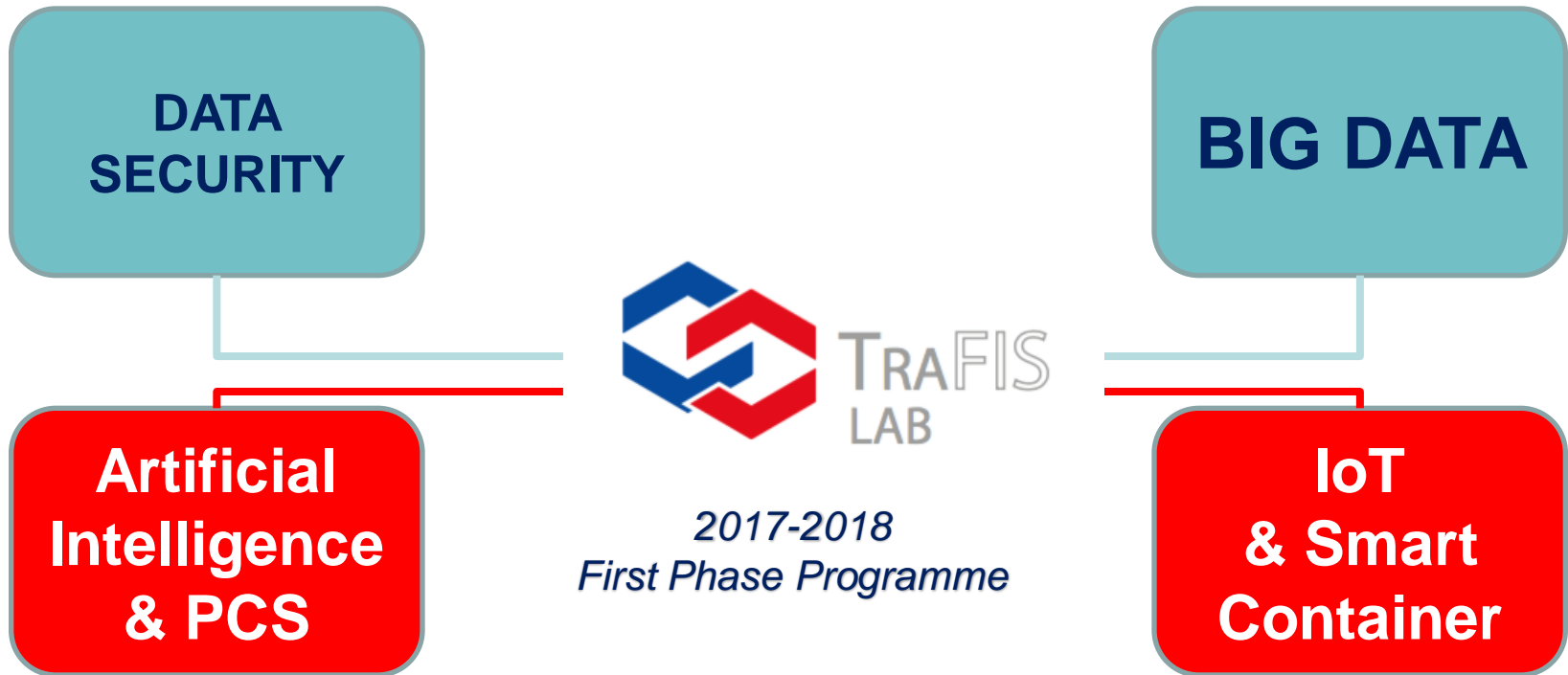
# 5 CO's because we are supposed to be more intelligent all together!





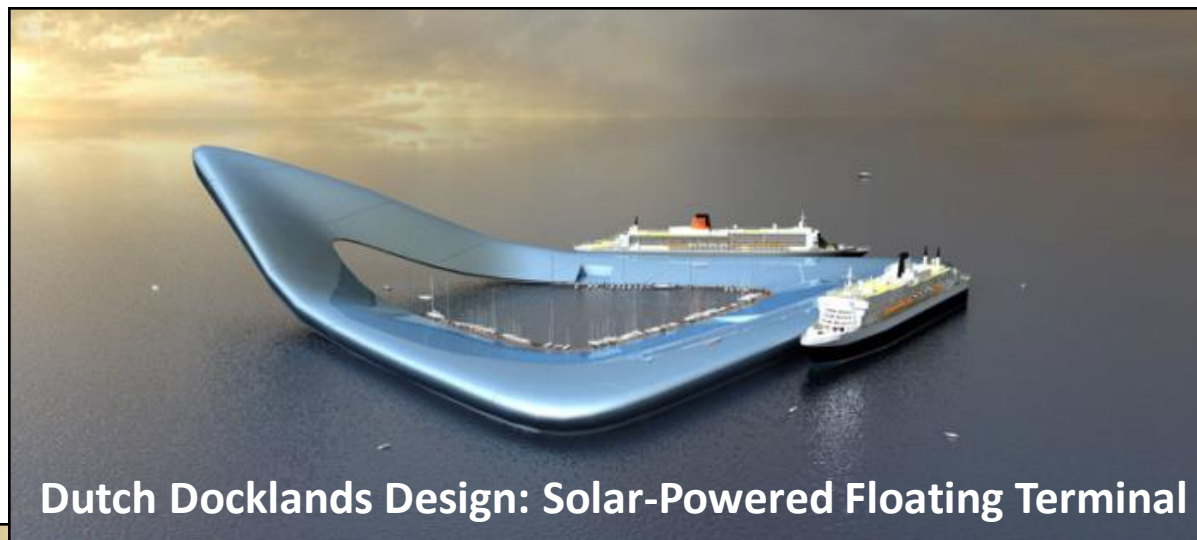
# Four Pillars for the next 18 months... far beyond Pure IT issues...

---



*And about you ? The case of Mega Cruising Postmodern terminal...*

- Digital Modeling
- 3D CAD System
- Virtual Reality
- Smart Production Systems
- Connectivity



**Dutch Docklands Design: Solar-Powered Floating Terminal**



**Miami, USA by RCCL**



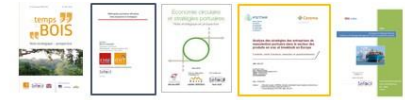
**Shenzhen, China (China Merchants)**

*i Da sus gracias a todas i todos ! Wish to thank all of you ! En vous remerciant !*

 **1** Collection



 **2** National Prizes



 **5** White Papers

FONDATION  
**Sefacil**  
LOGISTIQUE - PORTUAIRE - MARITIME

 **10** Books

 **150000** Download  
Linkedin

*Key figures*  
**2011 – 2016**



 **5000** Pages

 **50** Nationalities

 **250** Experts  
Academia & Business