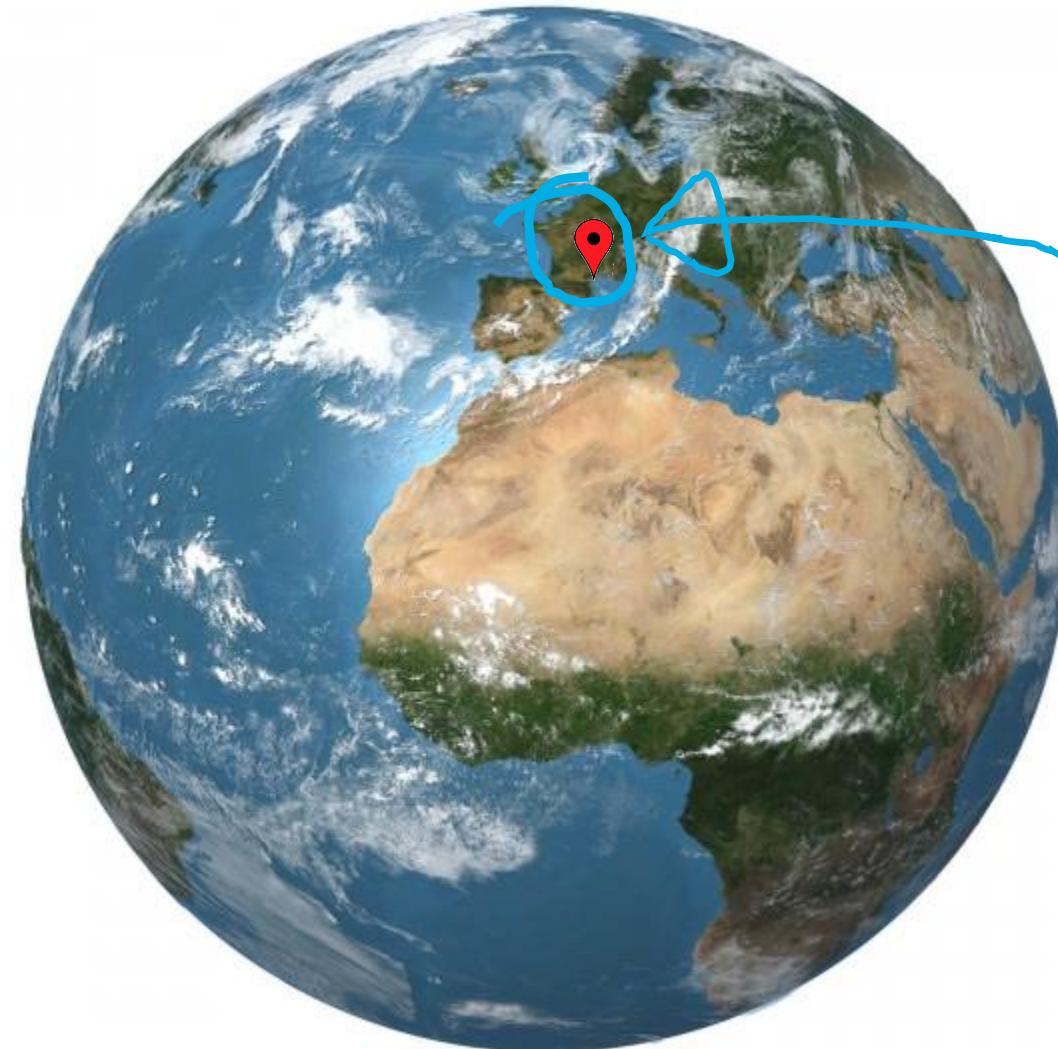




Fos Tonkin : Transformation of one of the oldest LNG import terminals in the world

Thierry LABROUSSE, Deputy plant manager, ELENGY
Laurent PERREL, Project engineer, ELENGY

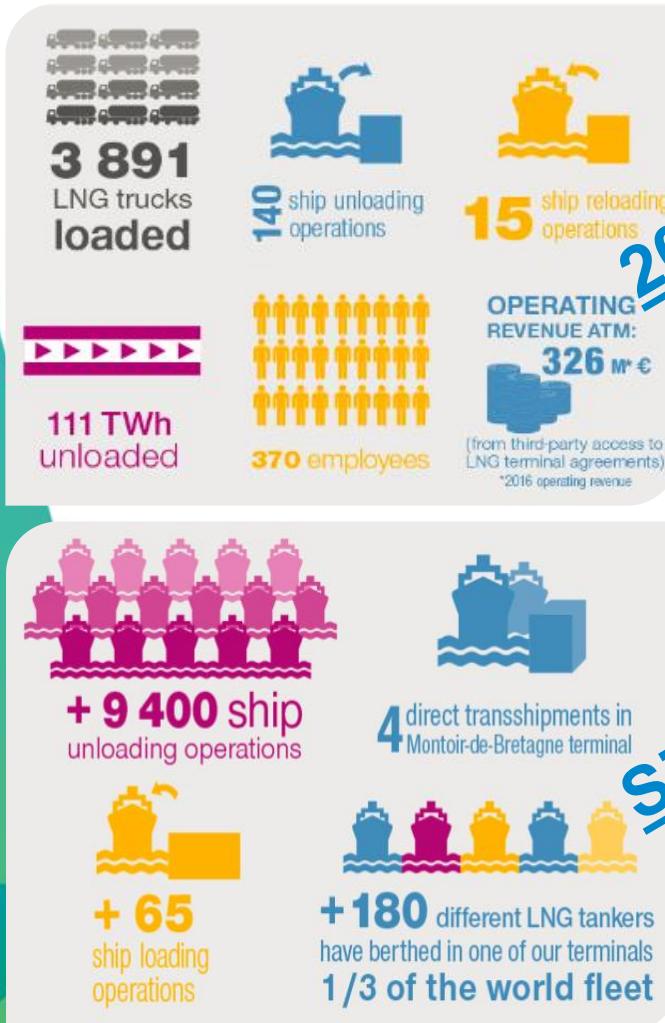
Location



Here we are !

elengy

A company of CNOOC



Since
1965



Montoir-de-Bretagne
Start in: 1980
Capacity: 10 Gm³/y
Tanks capacity: 360 000 m³
Vessels : up to 267 000 m³ (Q-Max)



Fos Cavaou
Start in: 2010
Capacity: 8.25 Gm³/y
Tanks capacity: 330 000 m³
Vessels : up to 267 000 m³ (Q-Max)

Owned by FOSMAX LNG
(Elengy 72.5%, Total 27.5%)
Operated by Elengy



Focus on Fos-TONKIN Terminal

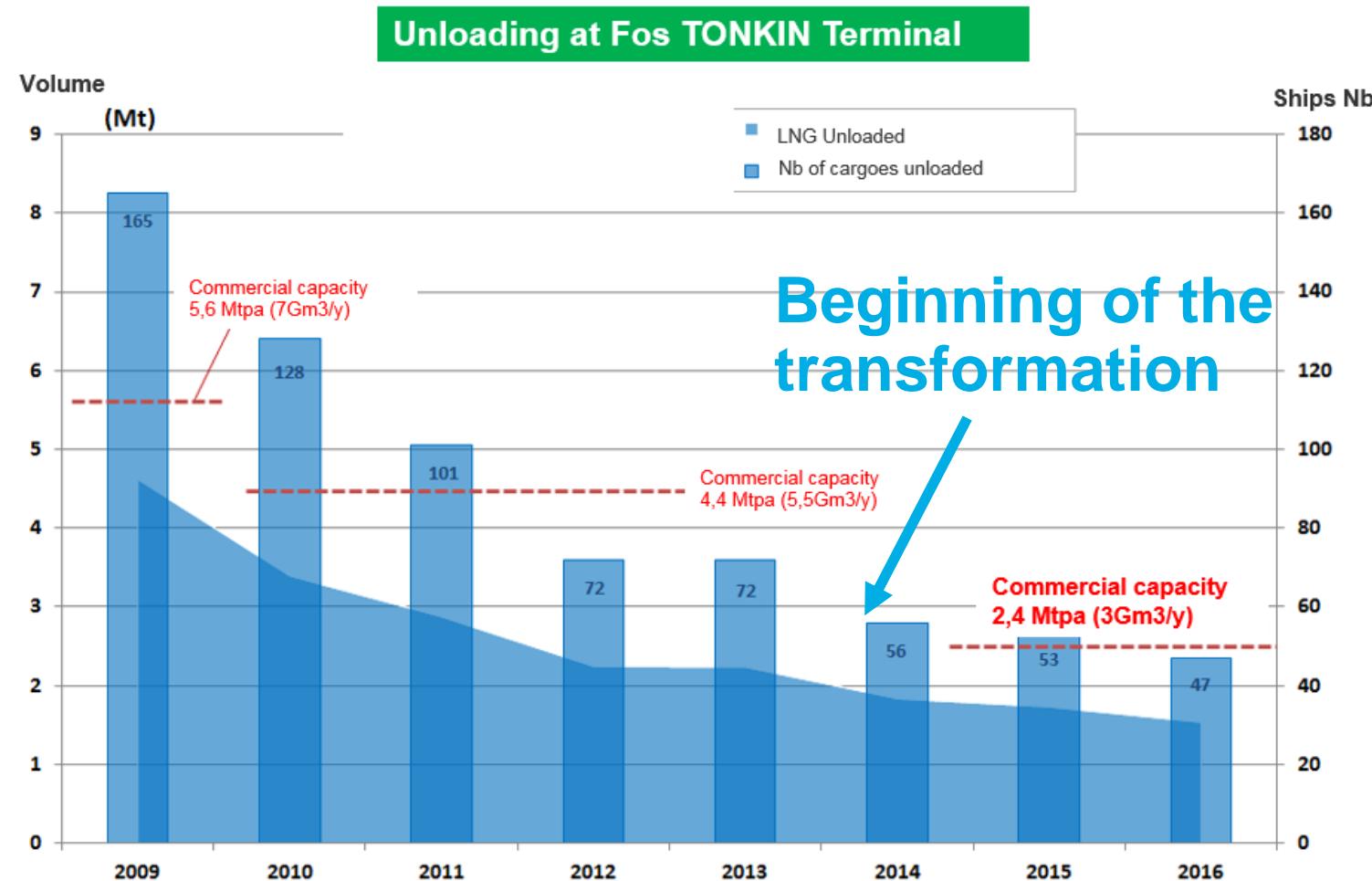


The historic business model

Large scale LNG operations based on long terms contracts... then...



Focus on Fos-TONKIN Terminal



.... a decreasing
of commercialized
capacities

Objectives and terminal key figures

2014-2018

- Terminal capacity: **3bcm**
- 1 tanks / 80 000 m³
- LNG mini sendout : 120 m³/h
- LNGC reloading & Truck loading services



LNG HUB

2010

- Terminal capacity: **5,5bcm**
- 3 tanks / 150 000 m³
- LNG mini sendout: 450 m³/h
- Regasification only

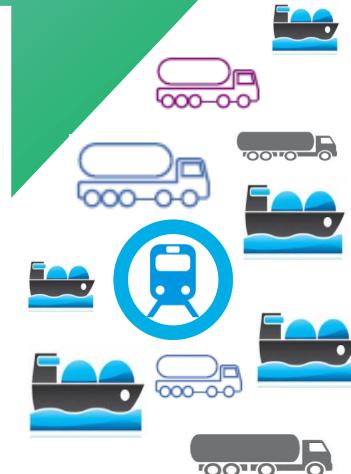


Project beyond 2020

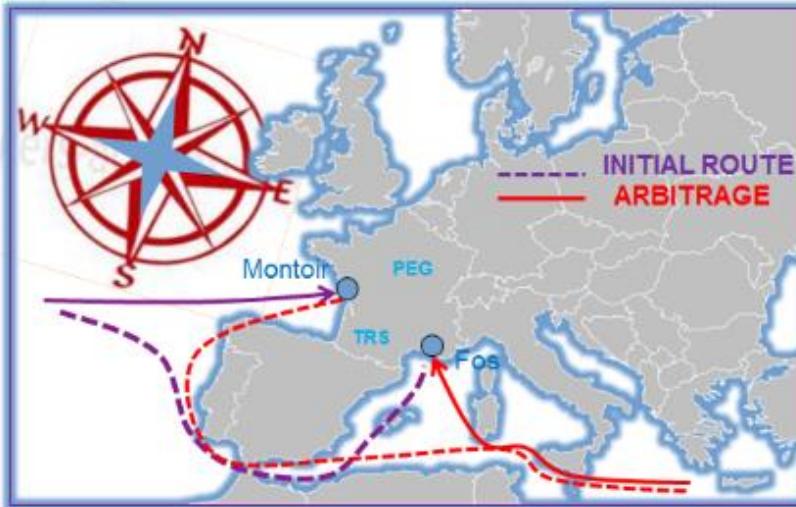
- LNG HUB to supply the small scale market:
Trucks & LBV loading, bunkering services
- Zero sendout mode without flaring



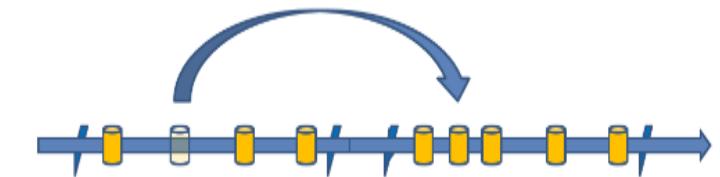
Gas grid liquefaction from REN



Commercial flexibility and new offers



- Contracts refreshing
 - Intra-annual re-scheduling,
 - Intra-monthly capacity pooling
 - Discount on SPOT pricing



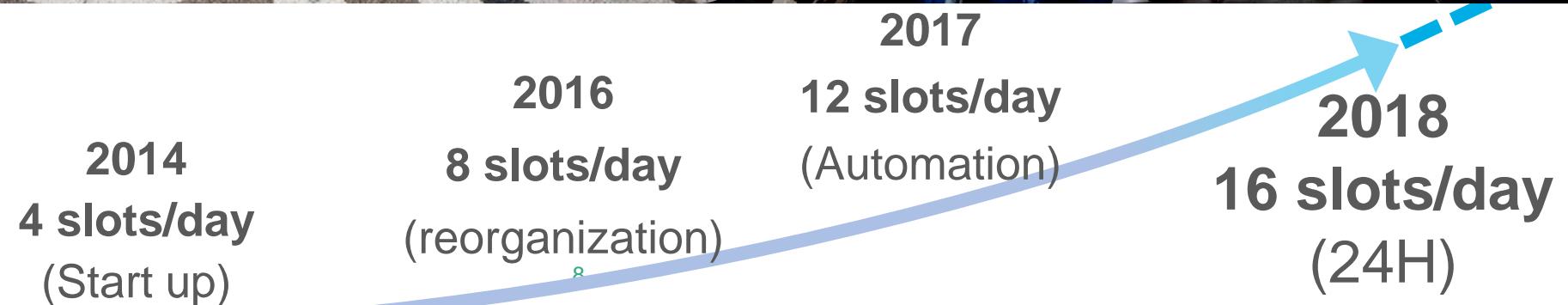
- New offers and services
 - Truck loading station
 - Adaptation of the terminal sendout capacity



Commercial development

- Truck Loading station revamping....

....A growing capacity to meet demand

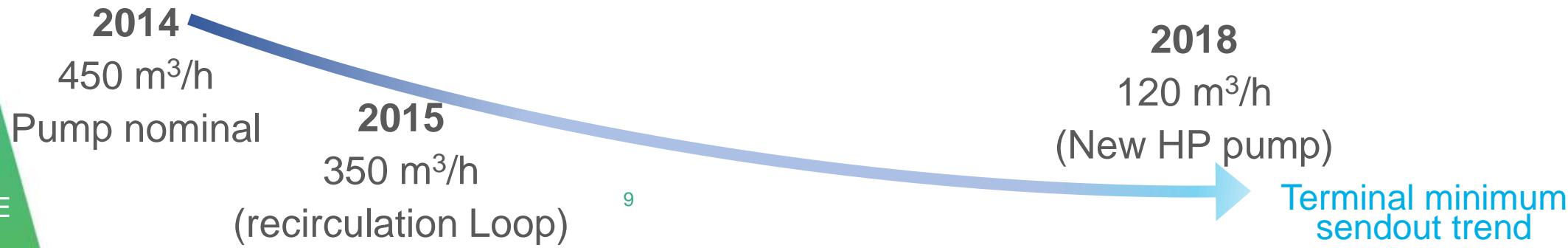


Commercial development

- A new LNG High Pressure pump...

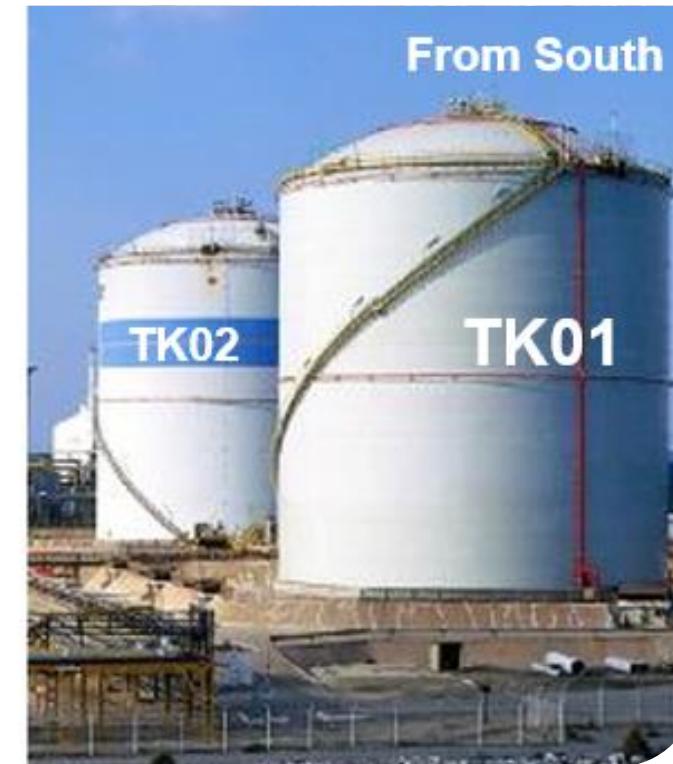


....reducing drastically the minimum LNG sendout flowrate



Technical challenges

- Decommissioning of 2 LNG tanks...



...within a terminal in operation

Technical challenges

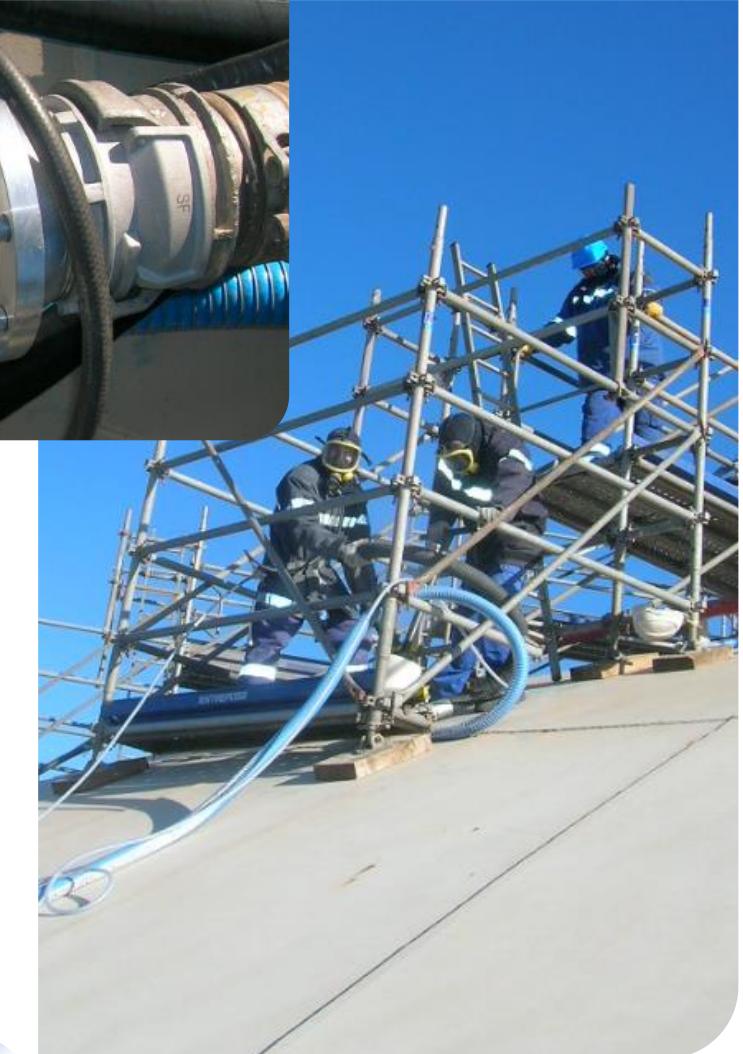
- Perlite removal works



A “World first” in
a cryogenic gas
atmosphere

Technical challenges

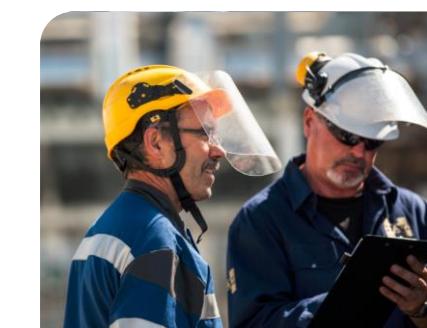
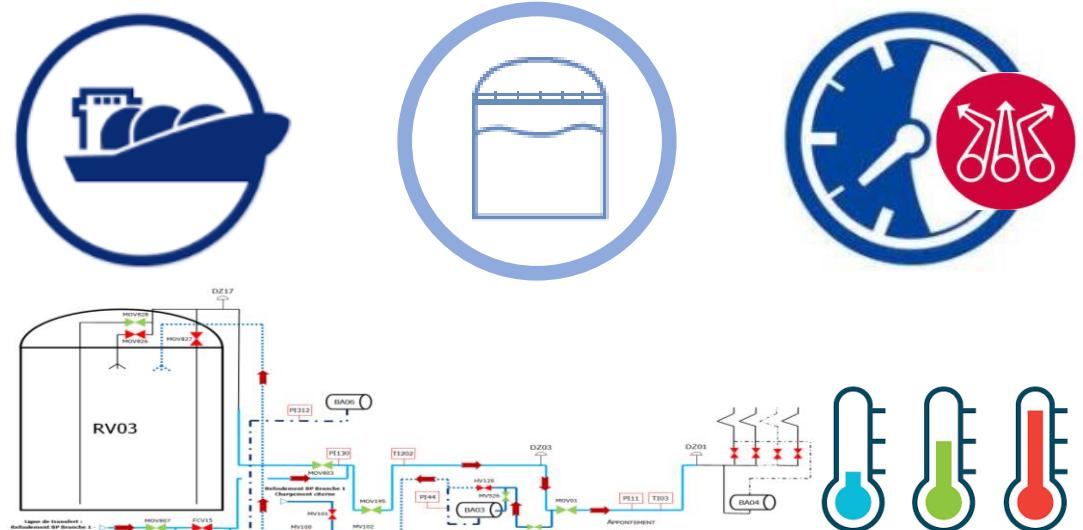
- Perlite removal works



Cock a doodle doo !

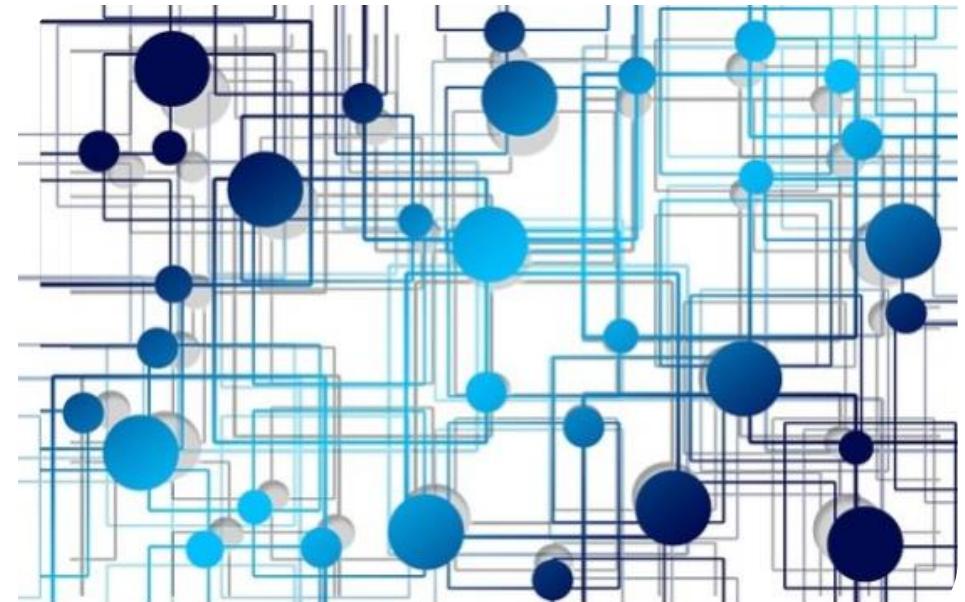
Impacts and challenges for the operations

- LNG storage and sendout management
- New LNG recirculation loops
- Operators training



Organization mutation

- Pooling of resources
- Manpower flexibility



Beyond 2020



Transshipment



Retail LNG

LNG
HUB



Reloading



Bunkering



Fos-CAVAOU

Fos-TONKIN

Conclusion

“Change is not merely necessary to life, it is life”
- Alvin Toffler-



1972



Nowadays



Tomorrow