

Société Nouvelle

LEBEON

MANUFACTURING



Lifting & Rigging



Installation support



Mooring systems

FORGING • HEAT TREATMENT • MACHINING • TESTING

MARKETS



OFFSHORE
Oil & Gas



MARINE



INDUSTRY



RENEWABLE
ENERGIES

OUR PRODUCTS GROUPS



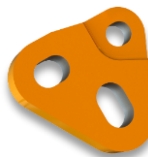
LIFTING AND HANDLING



CONNECTIONS



CUSTOM PRODUCTS



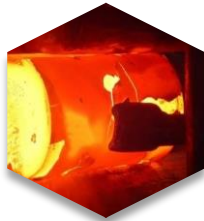
For chains, cables or synthetic ropes

PROCESS



Full in-house production process

- From design engineering to final testing
- Including **forging**, pioneering **heat treatment** and **machining**



FORGING • HEAT TREATMENT • MACHINING • TESTING



From concept to completion:

Manufacturing

of a cost-competitive and duplicable mooring system for
France's first floating offshore wind turbine



1. Floatgen Project Context
2. Flowchart of the actors Interactions
3. Mooring System Composition & Manufacturing
4. Lessons Learned



Project Presentation

Public tender December 2015

Issued by Ecole Centrale de Nantes

Scope of work: Supply of mooring system for floating wind turbine

Contract award: May 2016

Timeline required: August and September 2016

Specificities of public tender:

- A two stages process (short list, bid)

- A full package (4 sub-packages)

- Significant amount of administrative documentation to comply with

- Strict and unusual terms and conditions

- No deviations from technical specifications accepted



Organisation

Key factors for selections of partners:

1. Pricing
2. Trust / Track record / Common experiences
3. Acceptance of T&Cs
4. Delivery time

9 manufacturers / 6 countries

Operating as subcontractors and co-contractors

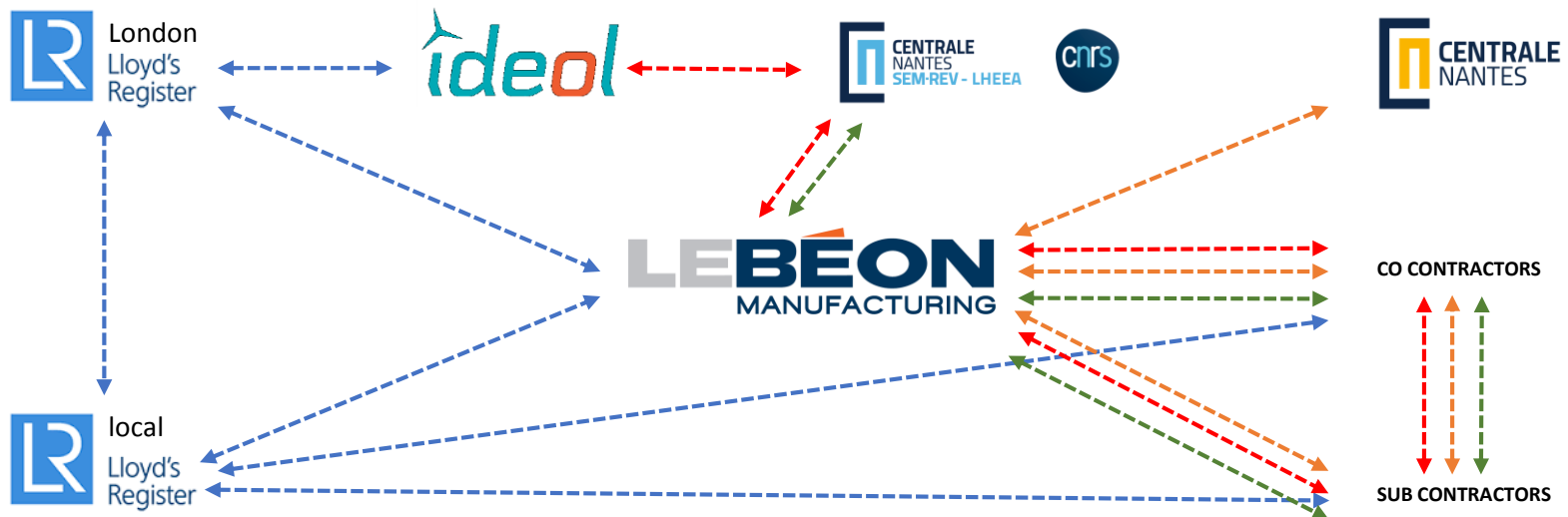
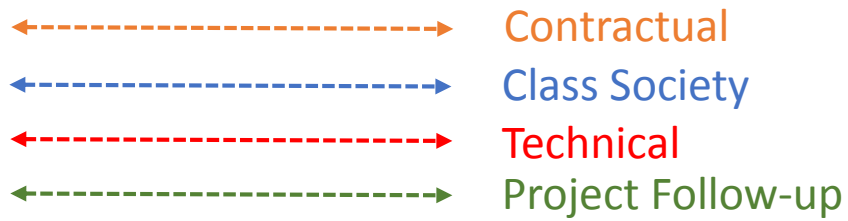
LEBEON
MANUFACTURING

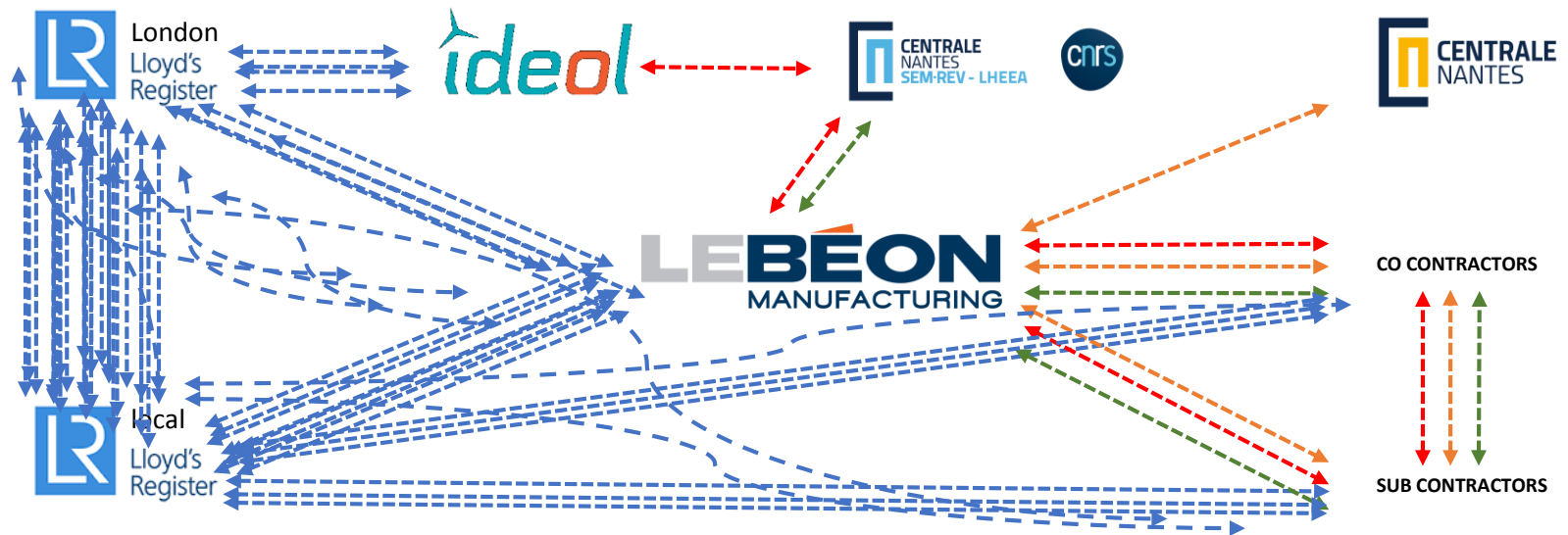
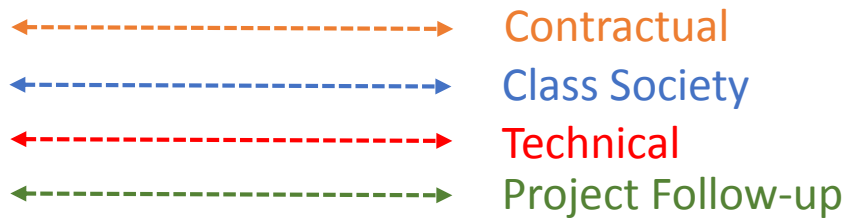
B E X C O



DAIHAN ANCHOR CHAIN MFG CO. LTD



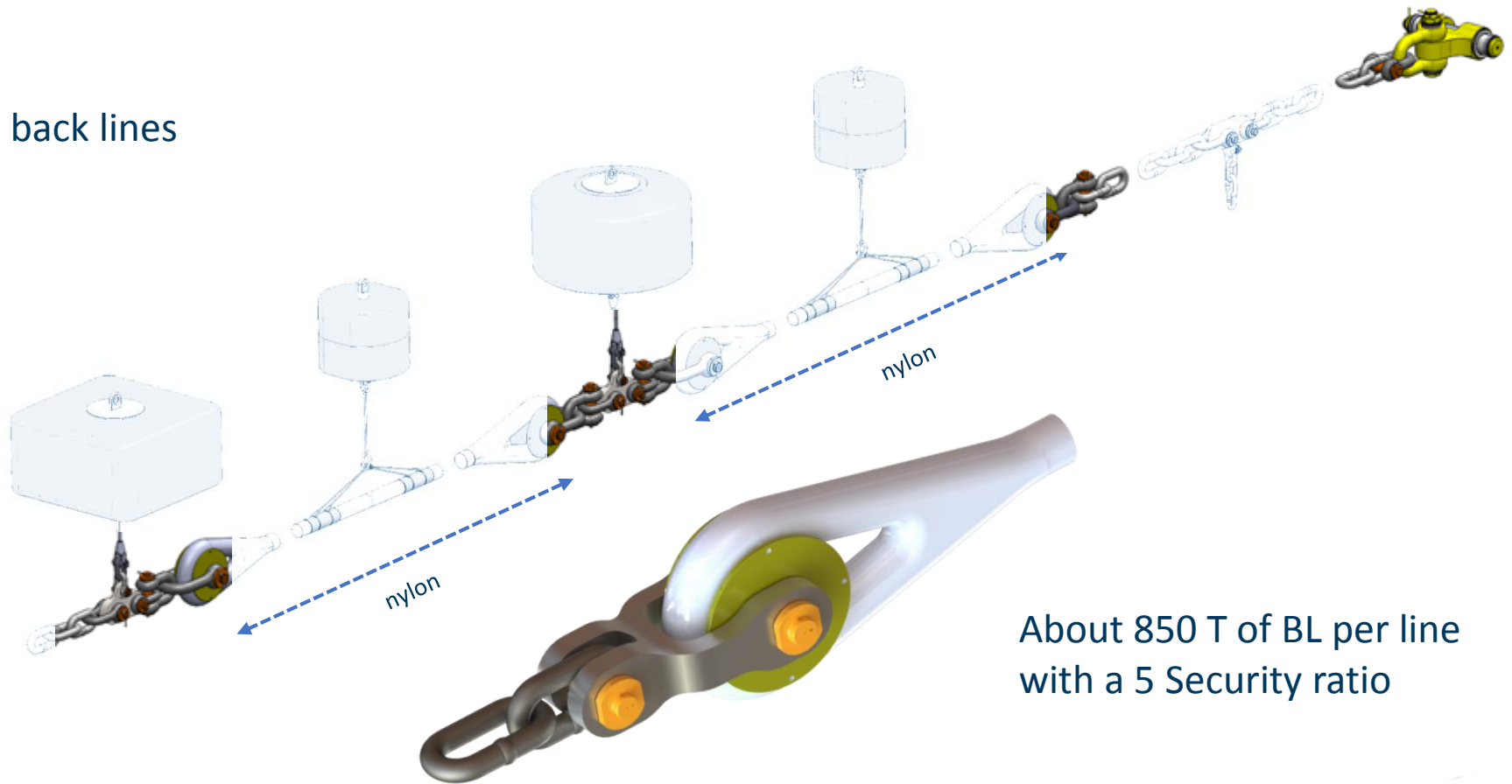




4 back lines (about 850m/line)

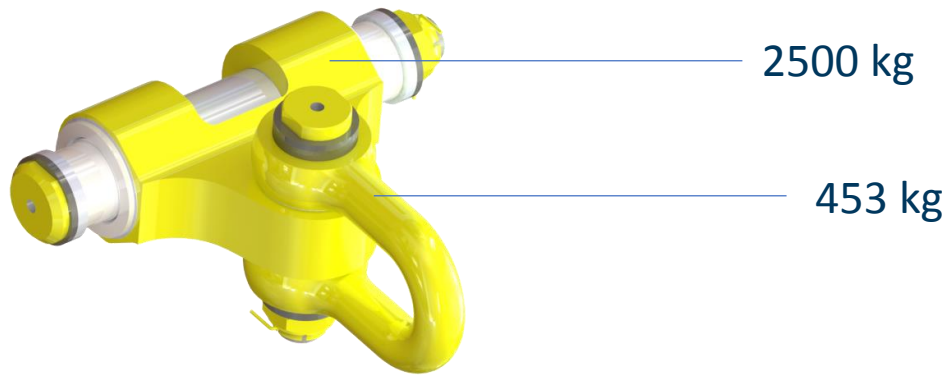
2 front lines

back lines



About 850 T of BL per line
with a 5 Security ratio

TOP CONNECTOR



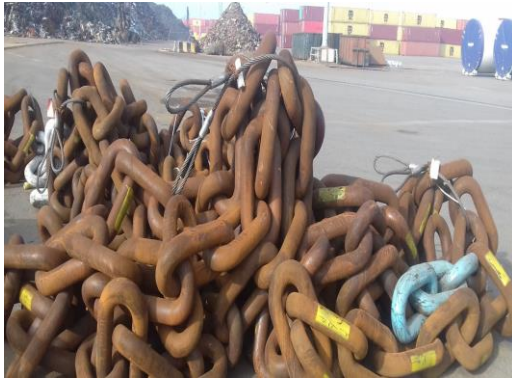
Specifications

Main material: 34CrNiMo6 / Grade R4 / hydrogen tested

Length: 1,5 m

Width: 1,6 m







With a **very tight time frame, direct and open exchanges** with ECN & IDEOL were critical to achieve quick decision processes.

Centralizing flows of communication has been a key asset to **manage** the entire logistic of the project.

Clearing packages once they were ready helped focussing on remaining punch items.

Geographical proximity between LBM and Saint-Nazaire has been helpful for **final inspections and logistics coordination**.

Always plan for the worst in term of logistics

(chain could not be offloaded from Le Havre because of crane breakage and then the chain stayed onboard cargo for 14 days more)

Not having opportunity to comment technical specs upstream is a **significant risk for cost and delivery control**.

Coordination with class society is a central point of focus, **defining** more clearly **the scope of every parties**, between central office and local inspectors would have saved a lot of time and pressure.

THANK  OU