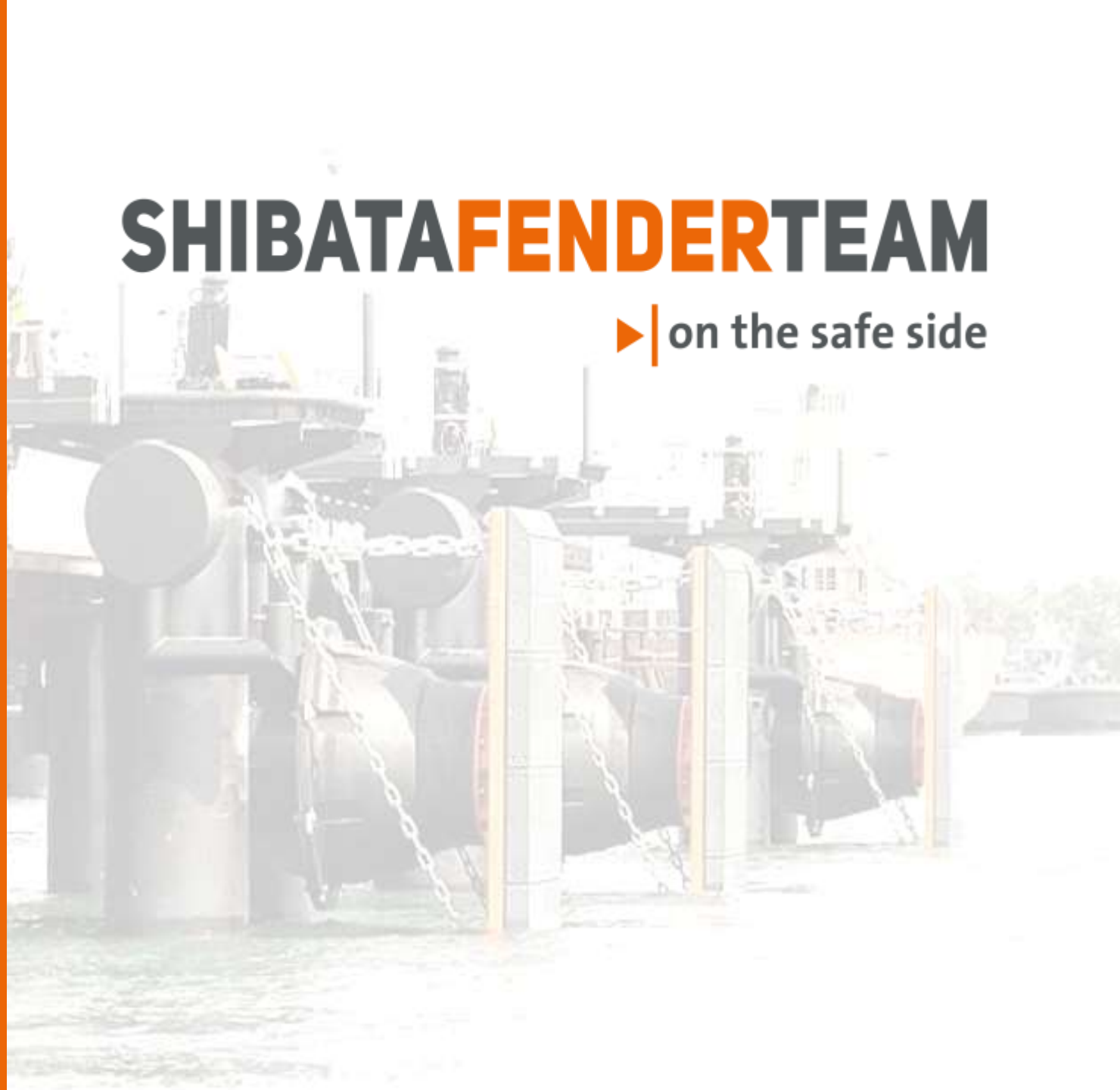


SHIBATAFENDERTEAM GROUP

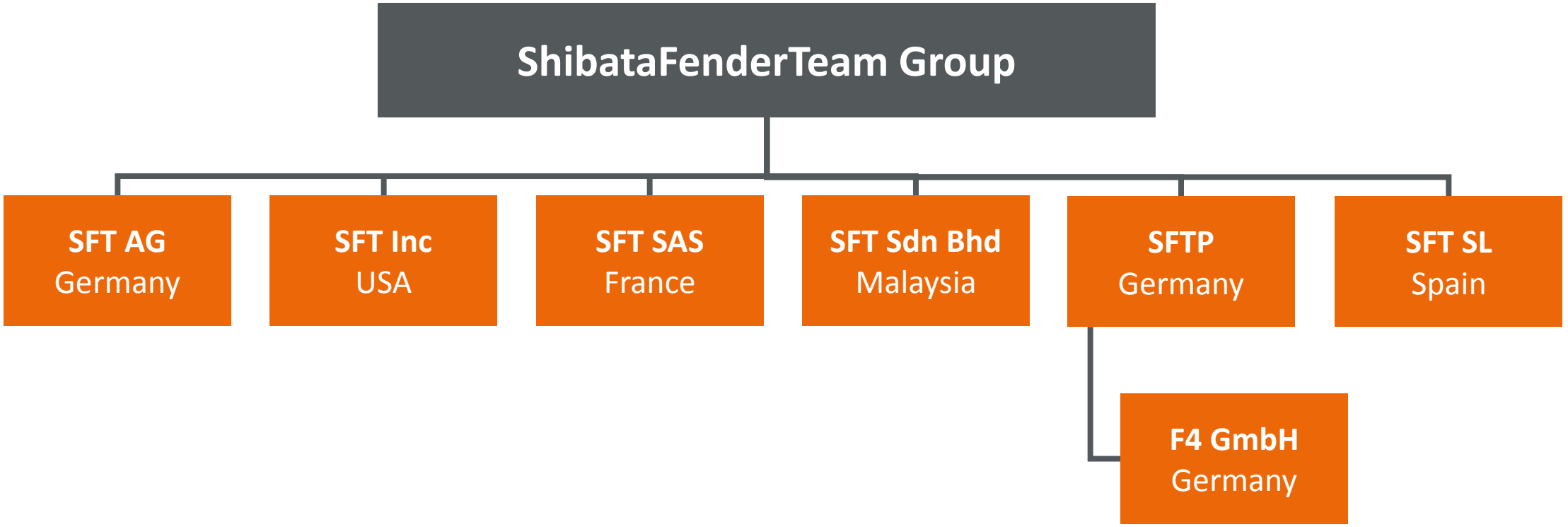
GERMANY | FRANCE | AMERICAS | ASIA | SPAIN

COMPANY PRESENTATION AND FENDER DESIGN FAILURES

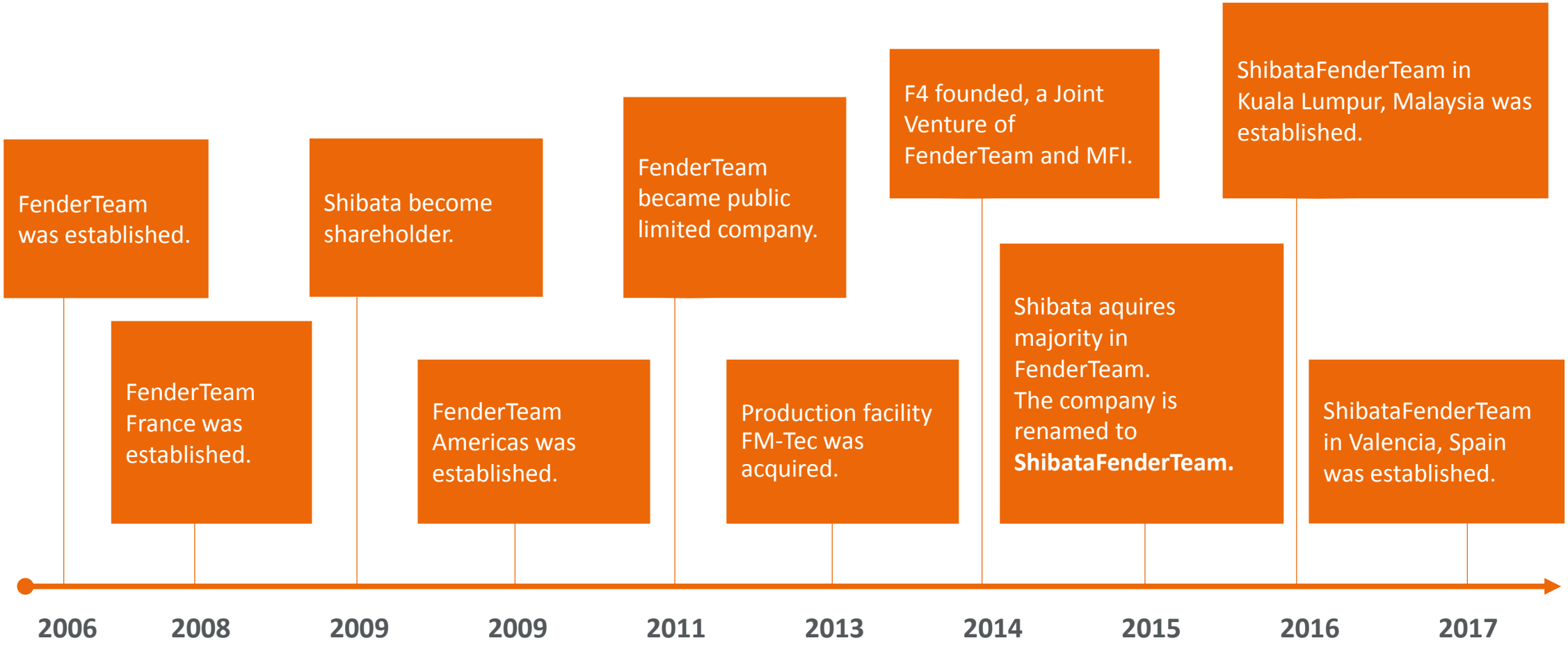
18th Intermodal Africa, Alvaro Rodero
21th-23th November 2017

TABLE OF CONTENTS.

ORGANIZATIONAL STRUCTURE.



MILESTONES.



SHIBATAFENDERTEAM GROUP.

HEADQUARTERS: Hamburg, Germany

OFFICES:
Washington, DC, USA
Paris, France
Kuala Lumpur, Malaysia
Valencia, Spain (since October 1st, 2017)

PRODUCTION:
Rubber fender production in Japan and Malaysia
Steel fabrication facilities in Germany
Foam Filled Fender production in Germany and the USA

SHIBATAFENDERTEAM GROUP.

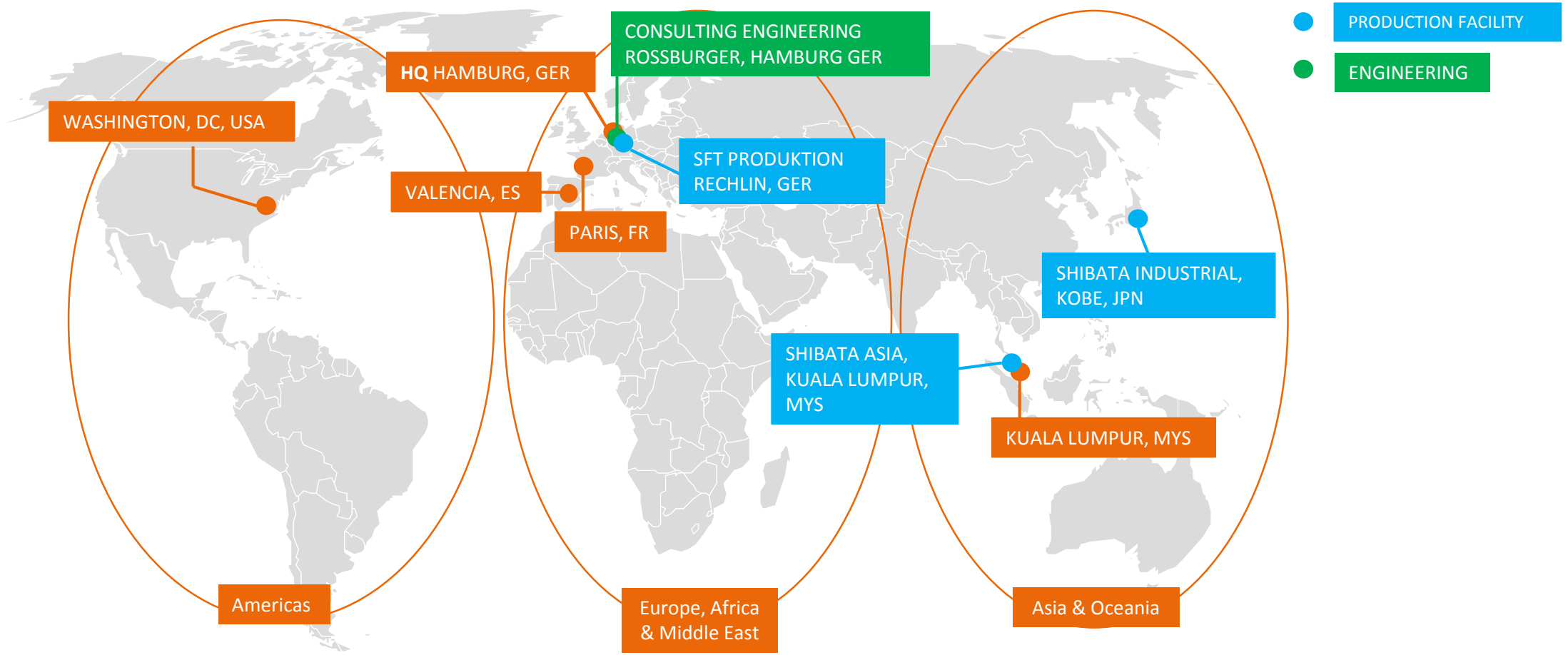
TURNOVER: ~ 50 Million USD annually

DELIVERED PROJECTS: > 4.800 worldwide since 2006 | Group track record since 1980

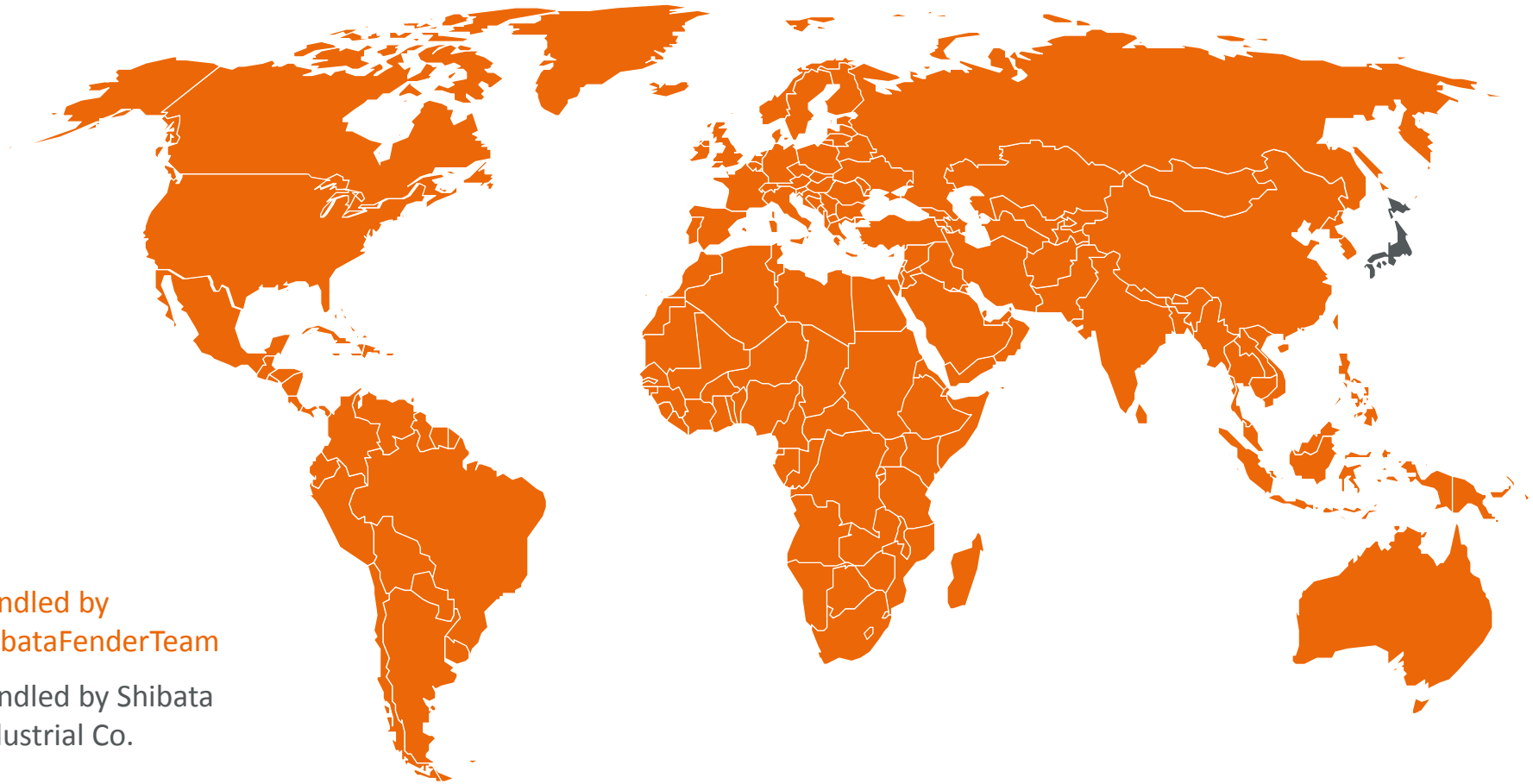
PROJECT SIZES: > 6 Million USD / project
> 200 fender systems / project

ACHIEVEMENTS: ISO 9001 / ISO 14001
PIANC Type Approval for std. range

SFT WORLDWIDE.



GEOGRAPHICAL REACH.



OUR STRENGTHS.

CUSTOMIZED FENDER SOLUTIONS

ENGINEERING

Application engineering by our in-house sales engineers

MANUFACTURING

Strong focus on producing all major components in-house ensuring highest quality and reliability

TESTING

Products are designed, manufactured and tested in accordance with PIANC 2002, BS 6349, EAU 2012, EC 3, DIN 18800, BS 5950 and AISC

CONSULTING

Detailed and extensive design input and support at an early project stage

AFTER SALES SERVICE

Providing support and assistance during commissioning and throughout the service life of the fender system

PRODUCT AREAS.

- Fixed Fenders
- Foam Products
- Pneumatic Fenders

- Corner Fenders
- Rolling Fenders
- Extruded Fenders

- Komposite Fenders
- Tug Boat Fenders
- Special Solutions

MARINE FENDERS

PE SLIDING PLATES AND FENDERS

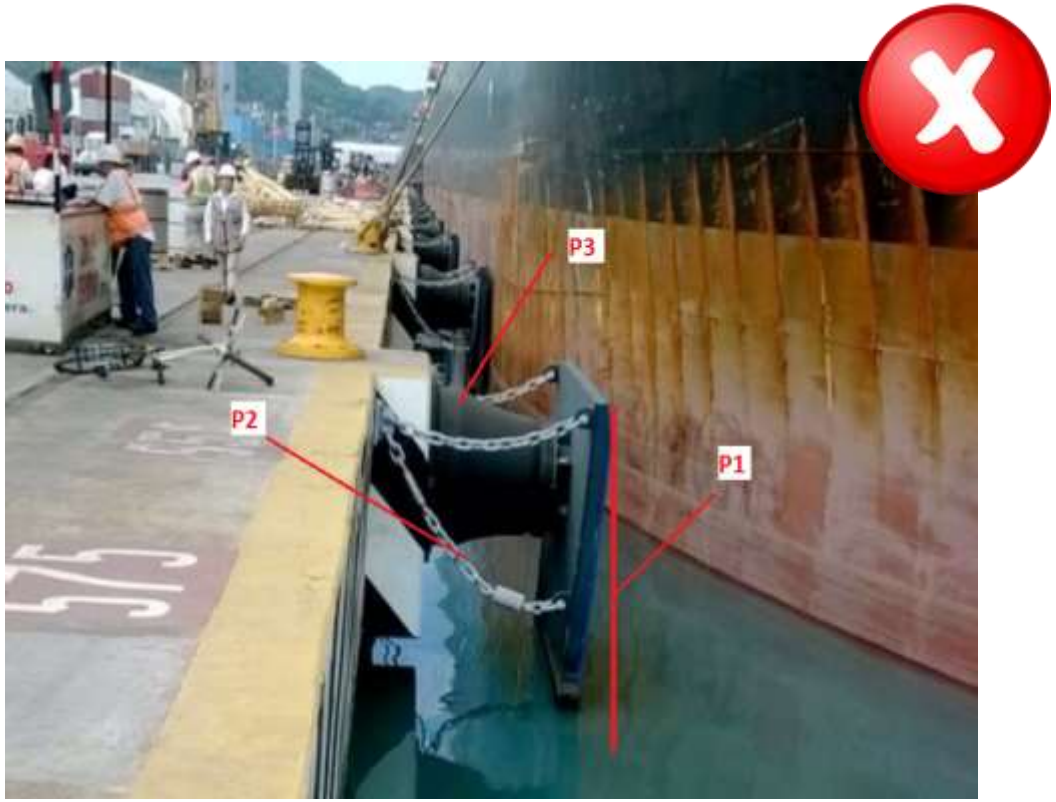
ACCESSORIES AND FIXINGS

BOLLARDS

TABLE OF CONTENTS.

FENDER/PANEL POSITION & CHAIN LAYOUT.

SHIBATAFENDERTEAM
on the safe side



Incorrect solution by low cost supplier

Causes:

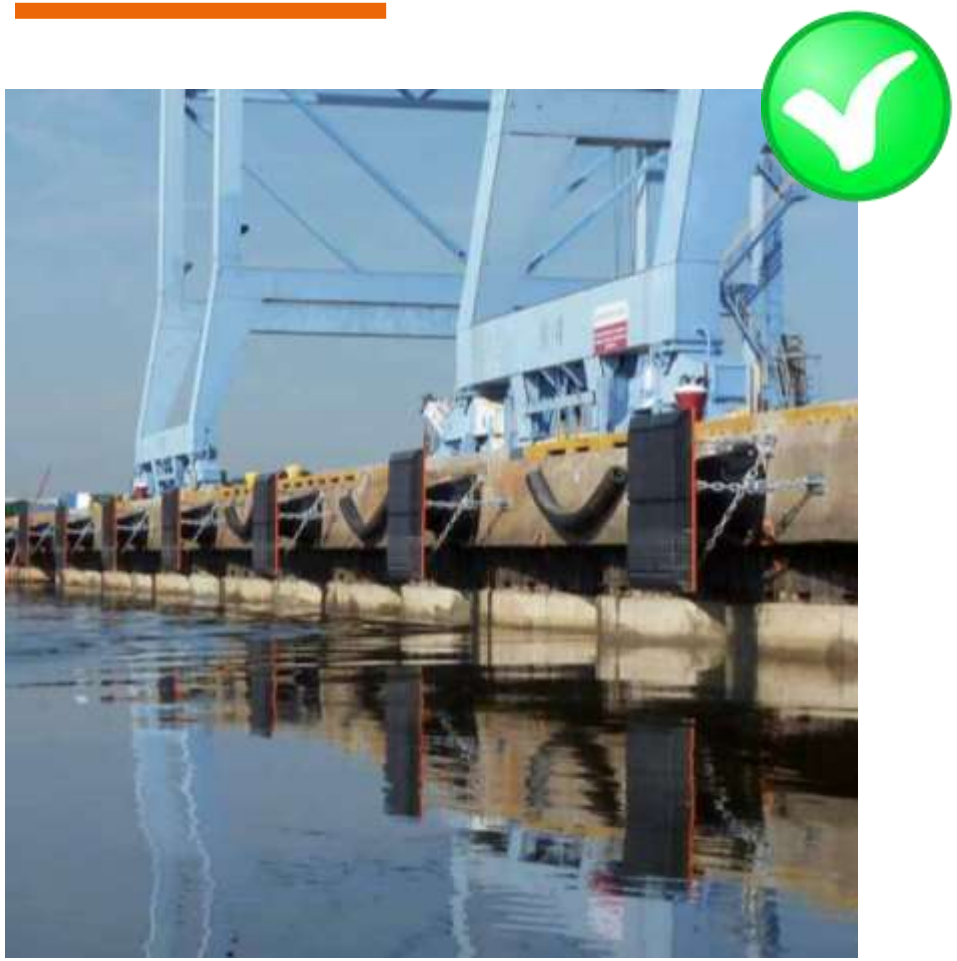
- P1 – Unfavorable panel position. Rubber fender installed too close to the top edge of the panel. Deflection by dead weight. “Propeller” Fender System.
- P2 – Chains with the incorrect angle and length not protecting the fender rubber unit, even normal tension/weight/shear loads.
- P3 – Low rubber quality. Incorrect Design. Rubber fender is ¨sagging.

Consequences:

- High peak hull pressure onto vessels’ hull.
- Potential damage to the vessels’ hull.
- Panel self weight supported by rubber instead by the chains.
- Torsion and bending loads damaging the rubber unit
- Cracks and damages in the rubber.
- Lower fender performance
- Reduction of life cycle of the system.
- **Increase in maintenance and replacement costs**
- **Additional losses for stopping operations during replacement/maintenance.**

FENDER/PANEL POSITION & CHAIN LAYOUT.

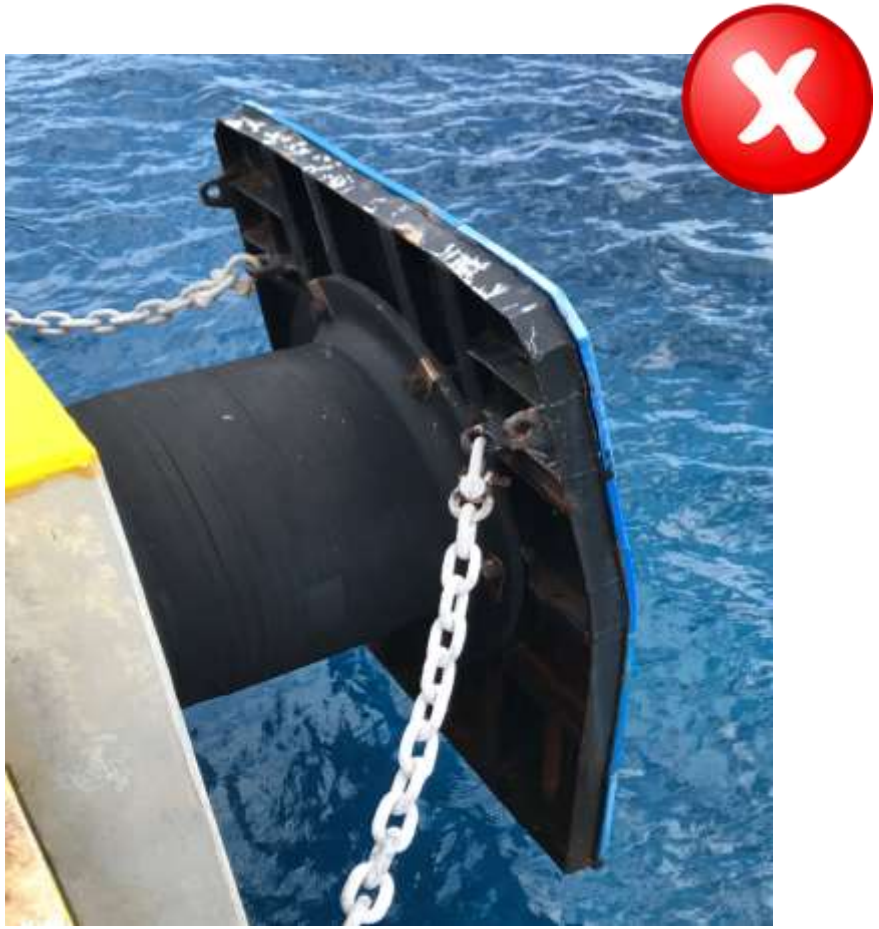
SHIBATAFENDERTEAM
on the safe side



Successful Customized solution by SFT

- Plum panels with no angle
- Rubber unit position allows to evenly distributed hull pressure
- Well placed, with the right angle and tensioned chains, protecting the rubber unit against panel self weight, bending and shear forces
- Full fender performance over the complete life cycle of the product

STEEL PANEL INTERNAL STRUCTURE.



Incorrect solution by low cost supplier

Causes:

- Panel internal structure under sized.
- Wrong structural calculation.
- Thickness of the steel beams is lower than required for the applicable load cases.

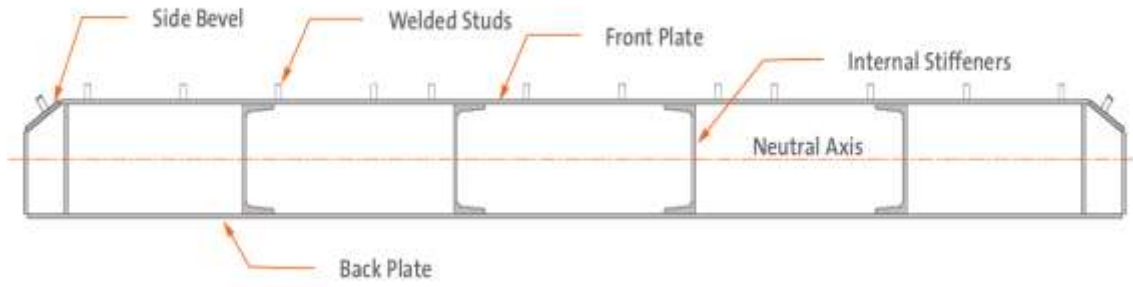
Consequences:

- Bent Panel.
- Increase of hull pressure onto vessels.
- Dramatic reduction of the life cycle of the systems.
- **Increase in maintenance and replacement costs.**
- **Additional losses for stopping operations during replacement/maintenance.**

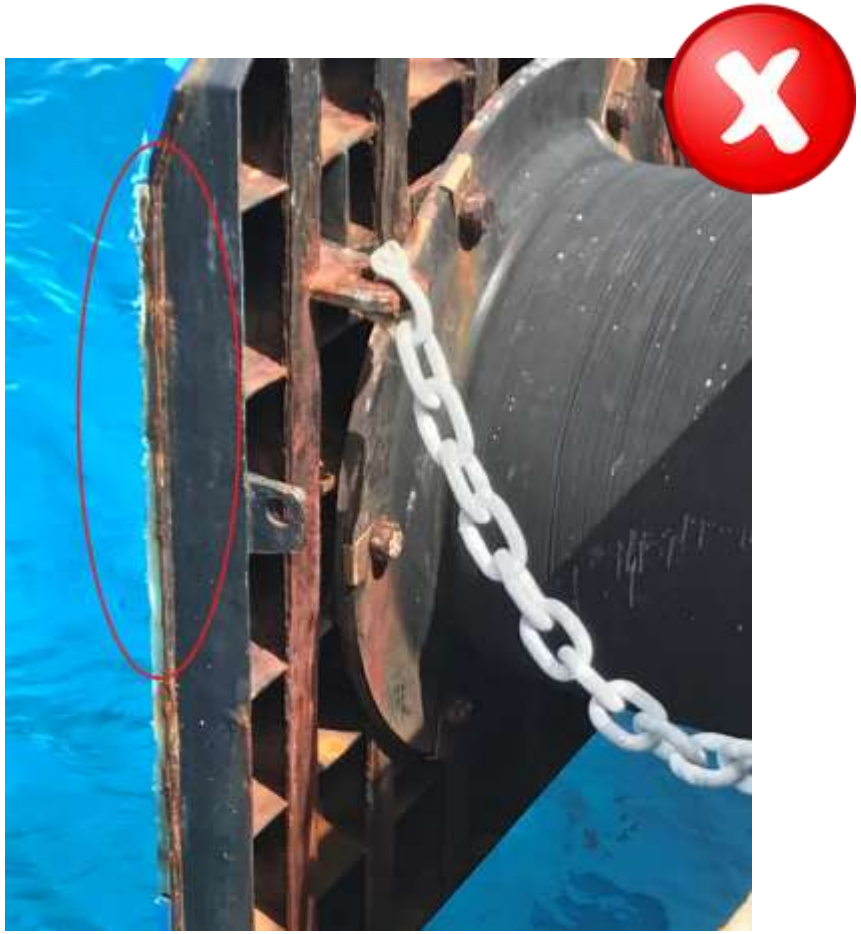
STEEL PANEL INTERNAL STRUCTURE.

Successful Customized solution by SFT

- Correct structural calculations, following specified standards and norms, based in real load cases, vessels, and berthing conditions
- Robust steel fender panel designed to support loads over the complete life cycle
- Correct distribution of hull pressure onto the vessels



UHMW-PE PROTECTION PADS.



Incorrect solution by low cost supplier

Causes.

- Use of not appropriate FQ /100% virgin material with high molecular weight
- Material used has reduced molecular weight
- Material used has a high abrasion index

Consequences:

- Quick deterioration of protection pad
- Damages into the steel panel
- Increase on shear forces – Damage to the rubber unit
- Reduction of the life cycle of the fender system
- Increase in maintenance and replacement costs
- Additional money losses for the stop in operations during replacement/maintenance

UHMW-PE PROTECTION PADS.

Successful Customized solution by SFT

- FQ/100% virgin UHME-PE material
- Low friction coefficient material
- Low abrasion index material
- Steel panel protected from direct impacts from vessels
- Rubber fender protected from shear forces

STEEL PROTECTION.

Incorrect solution by low cost supplier

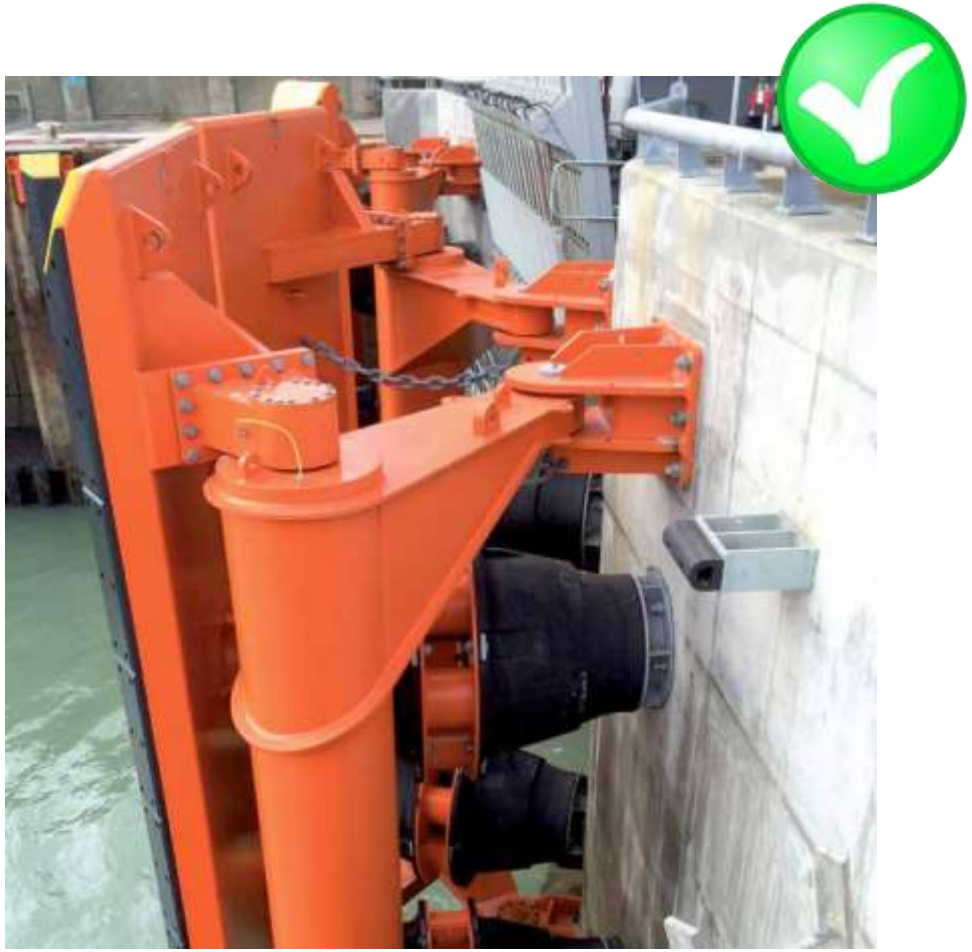
Causes:

- Coating system for the panel not suitable for marine environments
- Coating system for the panel below the required minimum thickness
- Hardware not hot-dip-galvanized/stainless steel
- Other corrosion protections such us zinc anodes not used.

Consequences:

- Deterioration of steel components
- Thickness reduction on the steel plates
- Reduction on the steel panel load support capacity
- Damages on anchors and chains
- Dramatic reduction of the system life cycle
- **Increase in maintenance and replacement costs**
- **Additional losses for stopping operations during replacement/maintenance**

STEEL PROTECTION.



Successful Customized solution by SFT

- Closed box steel fender panel
- Water has no access to the internal structure of the panel
- Maritime environment coating system against aggressive environments
- Coating thickness as per technical specifications
- Chains and hardware is hdg/stainless steel
- Optional zinc anodes

THANK YOU FOR YOUR ATTENTION!

For more information visit us at

booth #20 & 30

or

www.shibata-fender.team