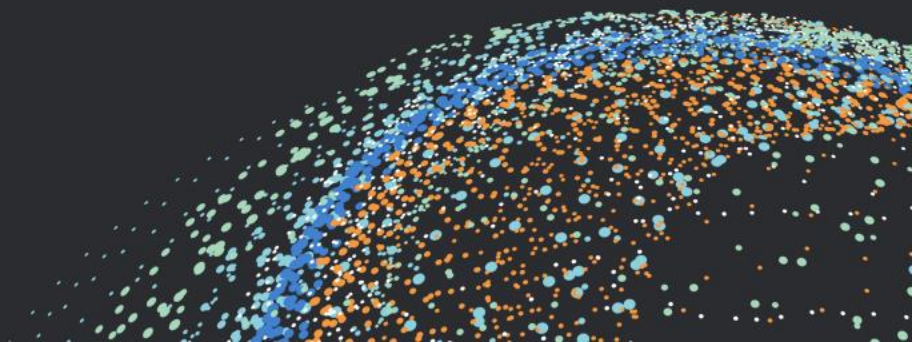
Wilhelmsen Ships Service

Mooring ropes – Proper handling for increased safety

ARCSOPT, 1st of November 2023



We are Wilhelmsen

A global maritime company

Providing essential products and services for the crew and technical management across the merchant fleets.

We are also developing new opportunities in offshore wind, zero-emission shipping, and marine digitalisation.

We are Wilhelmsen Ships Service

We provide bespoke maritime solutions, ensuring fleets are always efficient, safe, and smart when they sail.

Our solutions are available in each and every port where business is conducted.

- Maintenance and Repair Products
- Cleaning Chemicals and Equipment
- Water Treatment
- Oil Treatment
- Ropes

7
solutions

1 000
marine professionals

2 200
ports

200 000
deliveries per year

50%
of global merchant fleet as customers

We have the largest maritime network in the world

Timm Ropes by Wilhelmsen

250 years of experience in Ropes manufacturing

Mooring Accidents

Every year,
accidents happen onboard vessels related to failure in mooring lines

Mooring accidents can result in **severe injuries or death**

The reason
can be anything from equipment failure to rope failure under tension

Human-Centered Mooring Design in mooring operations is important in order to **mitigate and eliminate the risk** to personnel during mooring operations.
- OCIMF MEG4

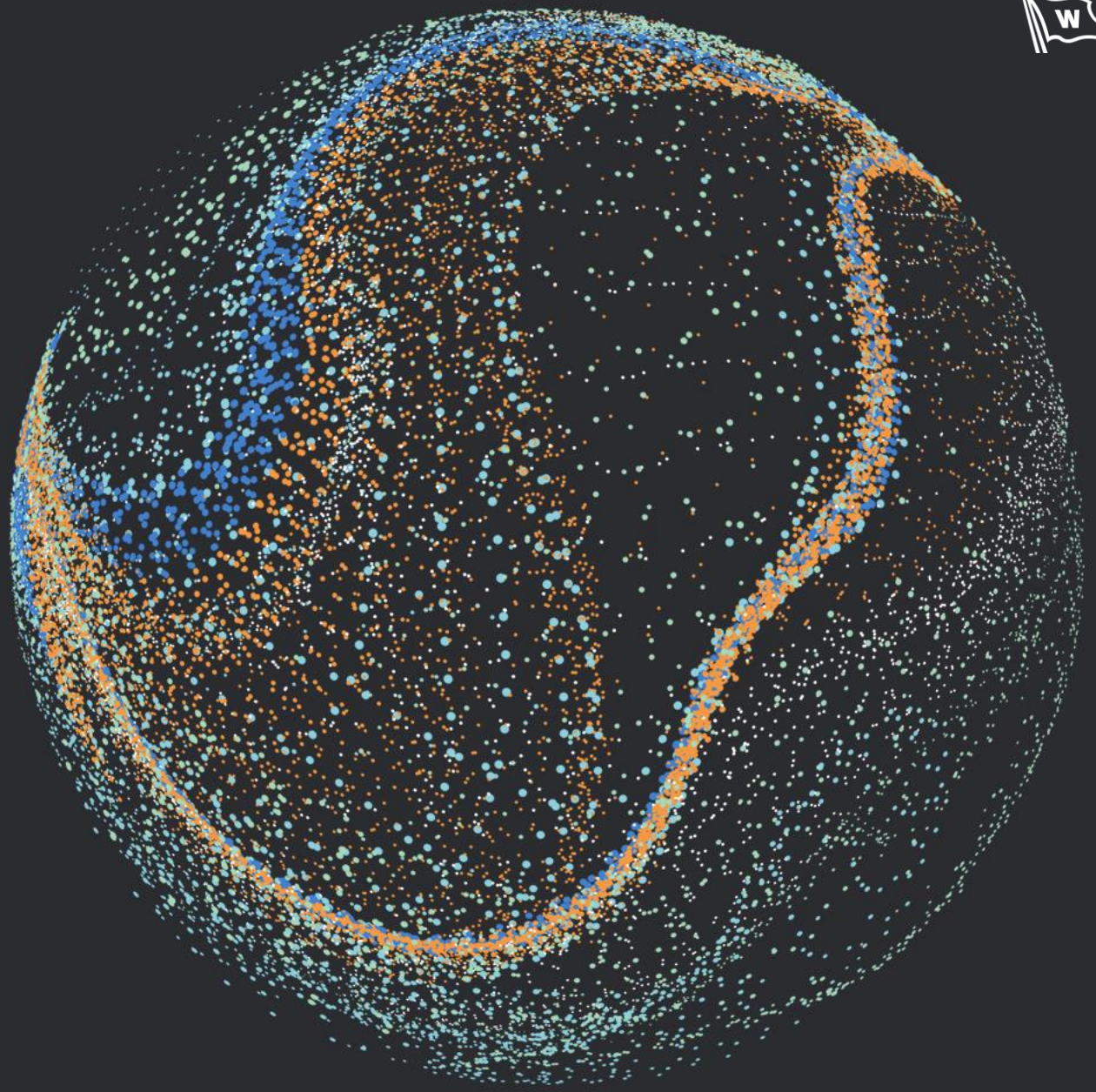
01 Selection

02 Installation

03 Usage & Maintenance

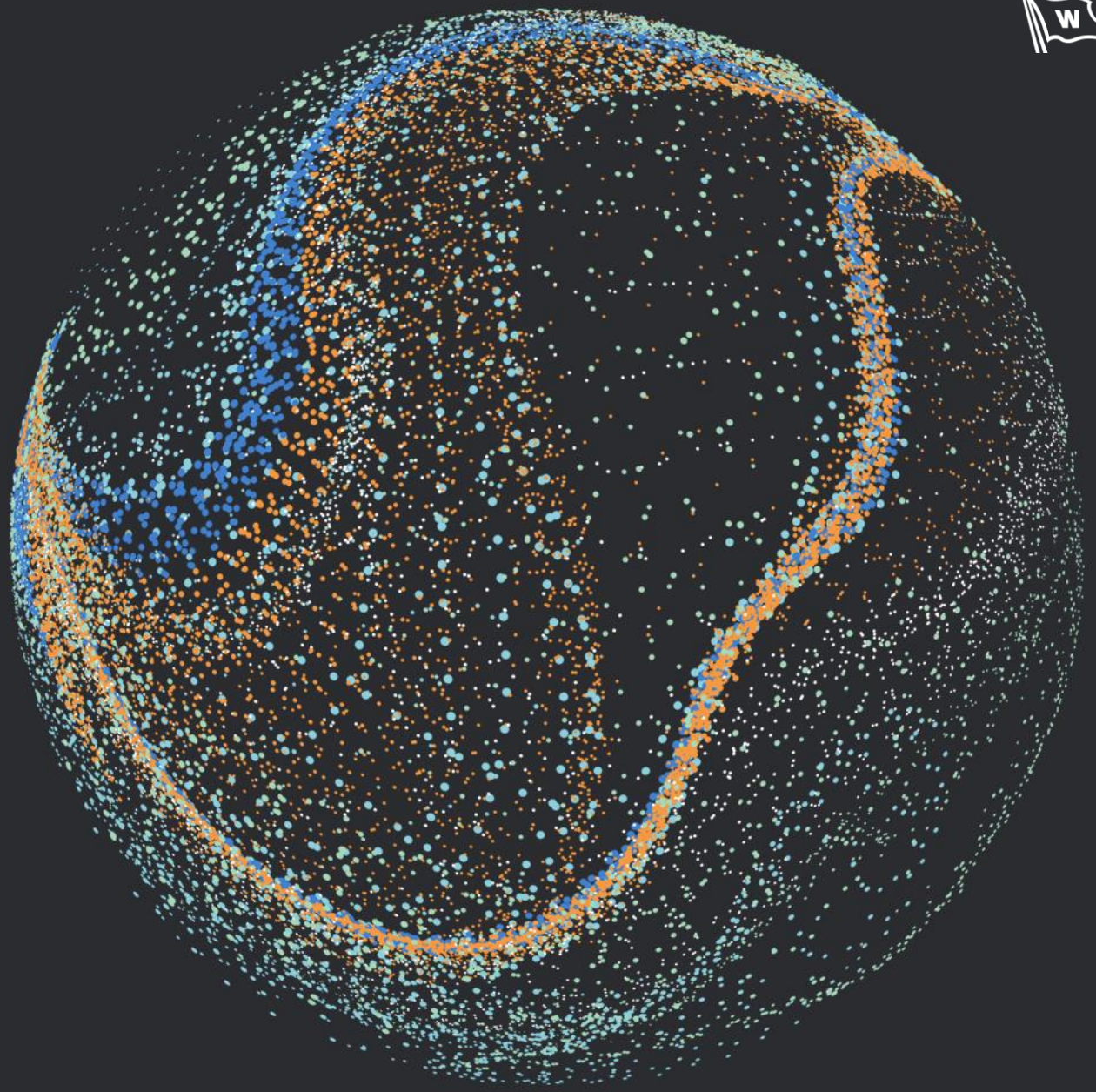
04 Inspection

05 Retirement



01

Rope Selection



Winch foundation, SWL
= 100% of SDMBL

Winch break rendering
= 60% of SDMBL

Hardware, SWL
= 100% of SDMBL

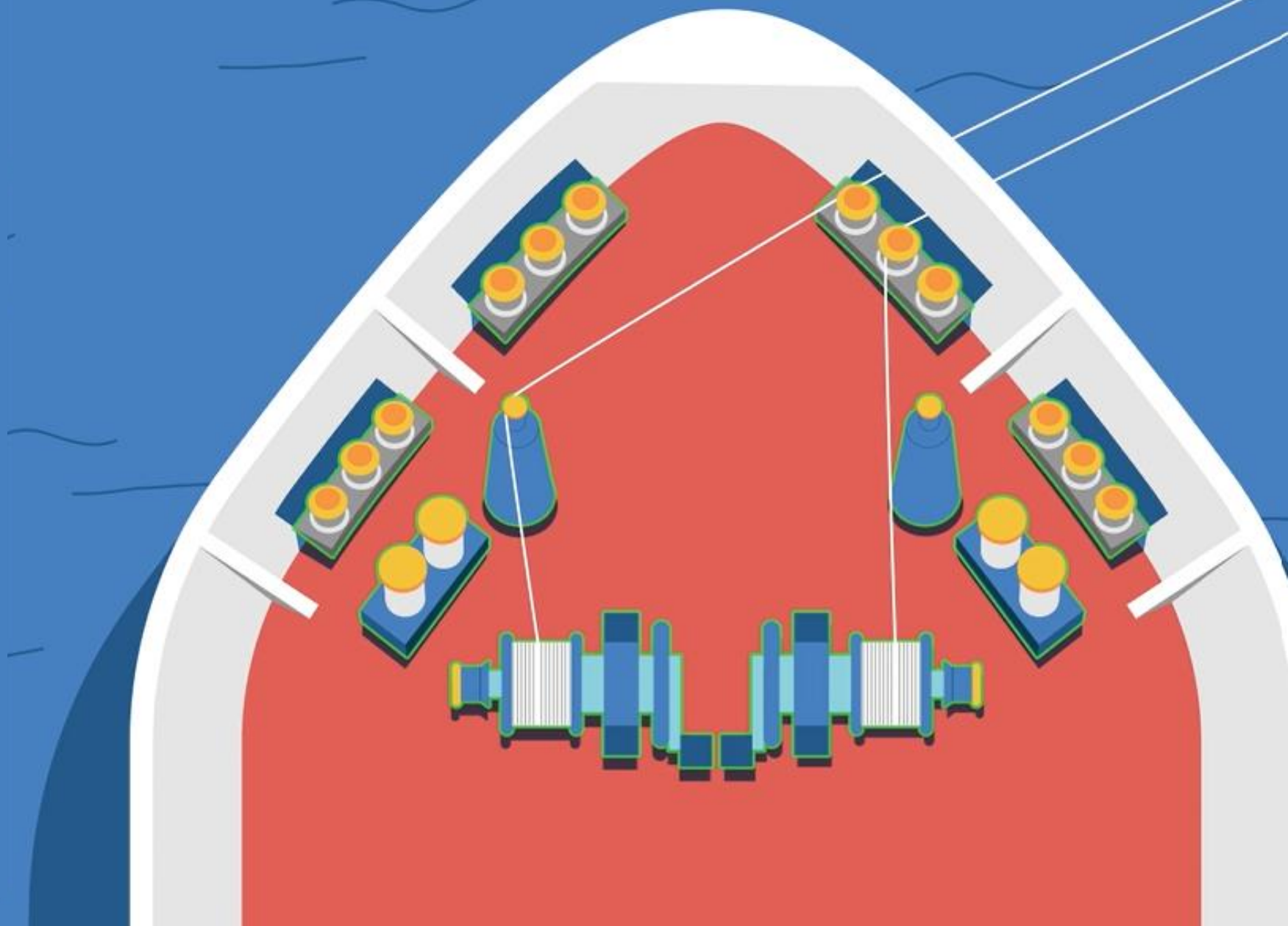
Max recommended working load
= 22% of SDMBL

Working load limit
= 50% of SDMBL

LDBF at
= 100-105% of SDMBL

TDBF at
= 125-130% of SDMBL

Retirement at
=75% of SDMBL



SDMBL and LDBF/TDBF

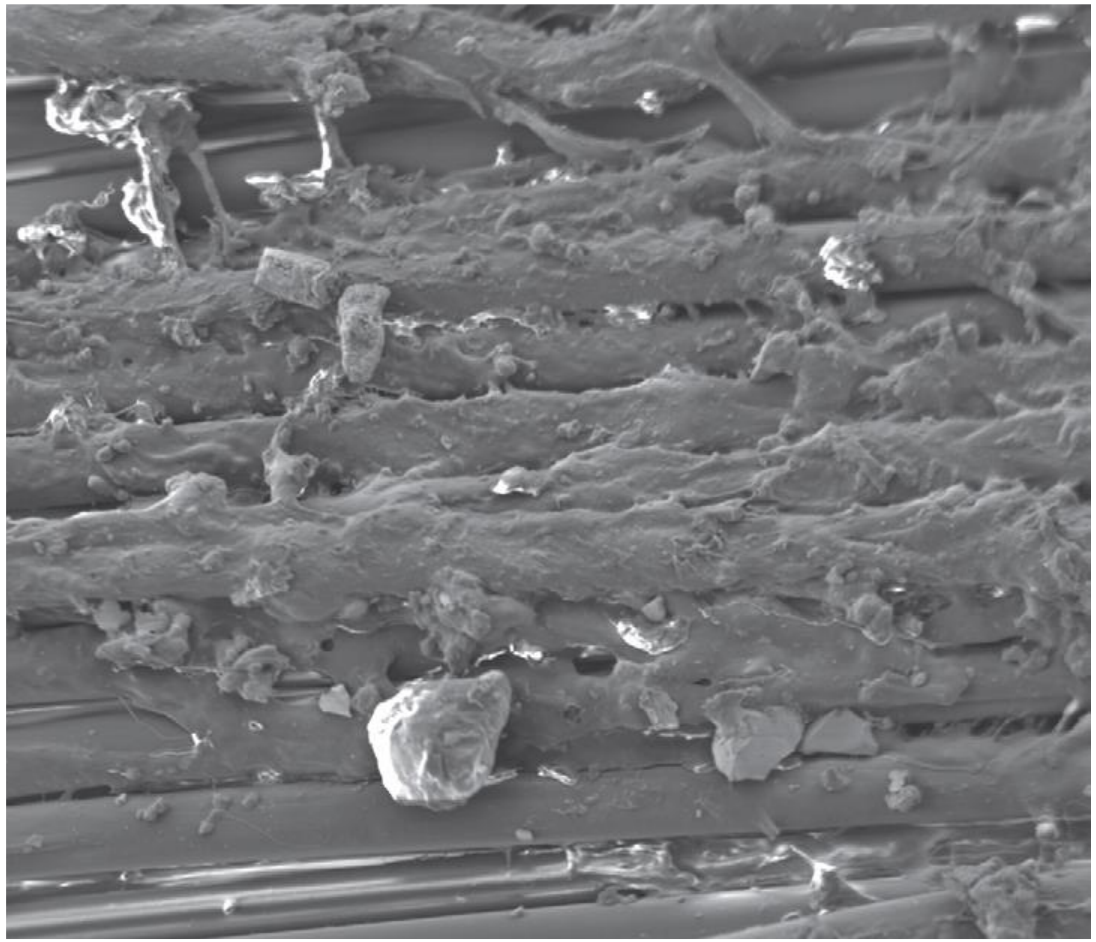
- **Ship Design Minimum Breaking Load (SDMBL)** is the minimum breaking load of new, dry mooring lines for which a ship's mooring system is designed, to meet OCIMF standard environmental criteria restraint requirements. The SDMBL is the core parameter against which all the other components of a ship's mooring system are sized and designed with defined tolerances
- **Line Design Break Force (LDBF)** is the minimum force that a new, dry, spliced mooring line will break at when tested = 100-105% of SDMBL
- **Tail Design Break Force (TDBF)** = 125-130% of SDMBL

Winches

- Type of winches – single drum or split drum
- Limitation of space on the drum

Type of cargo

Jacket can prevent the rope from the particles damaging the load bearing core



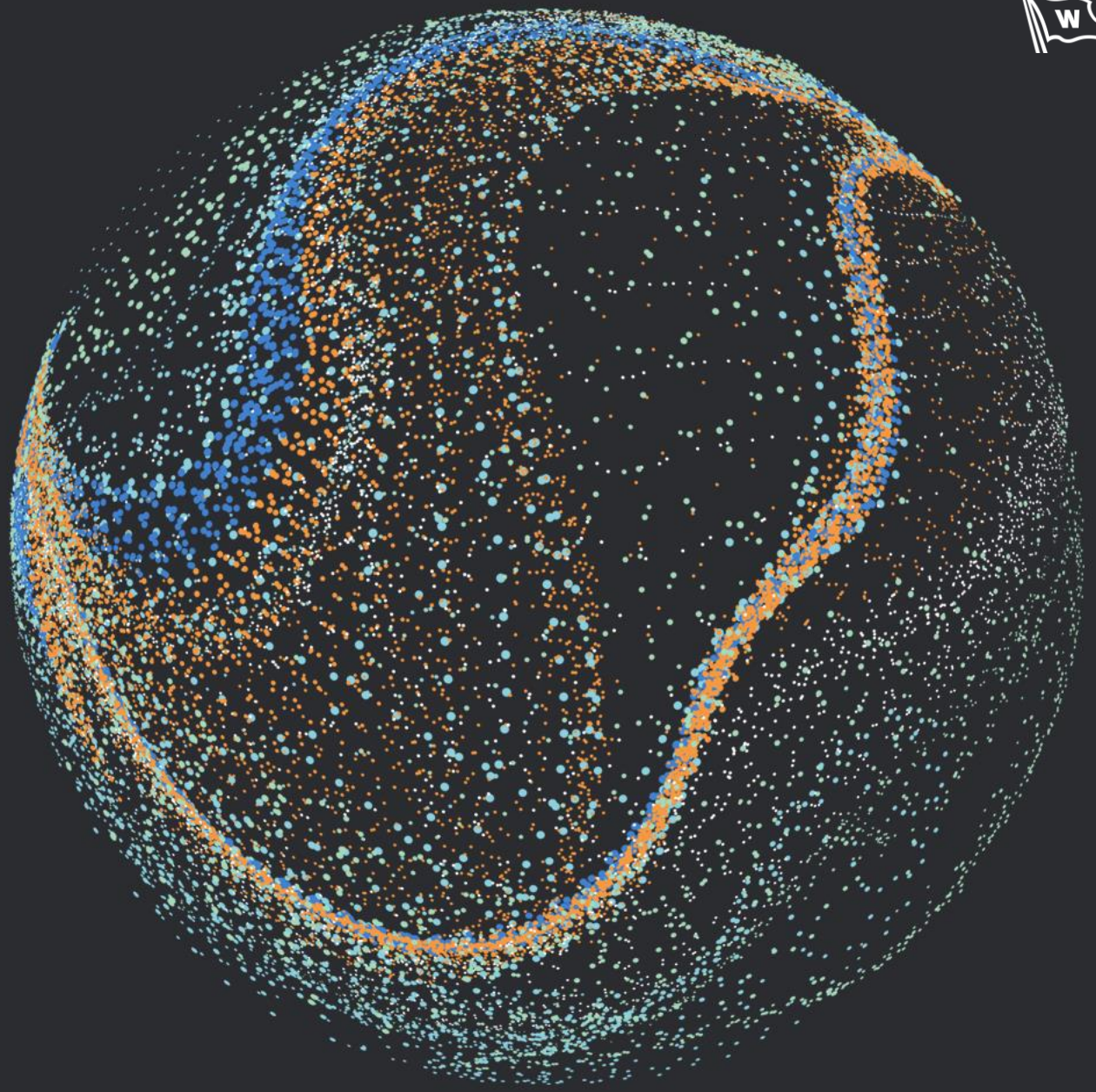
Rope certificates

Ensure that you can trust the certificates

- Works certificate
- Type Approval Certificate
- Batch test
- OCIMF MEG4

02

Installation



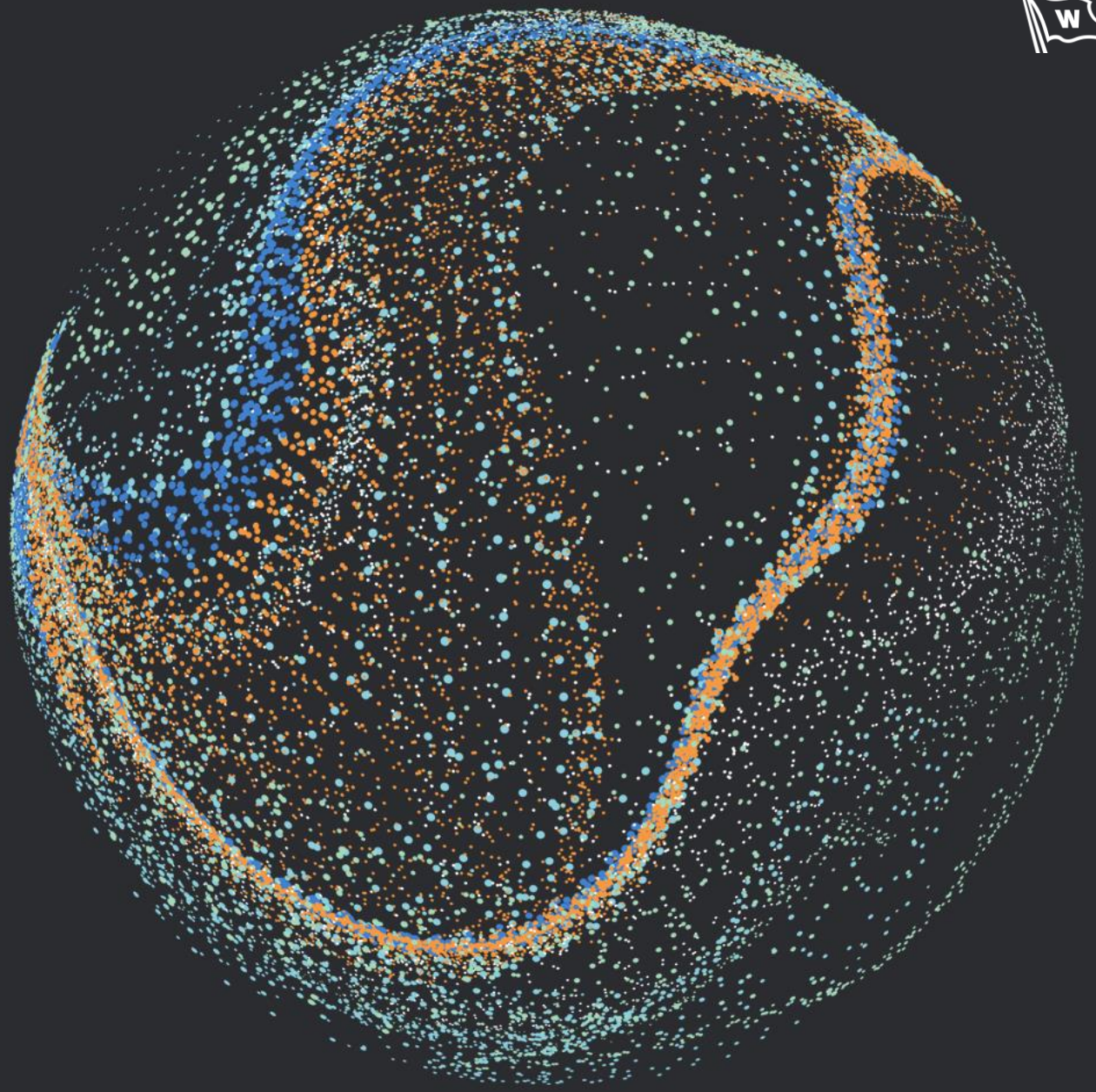
Installation

Proper installation will ensure good start for long service life

- Follow the installation manual
- For HMPE ropes we recommend to install under supervision of manufacturer
- Use rotating platform to avoid twist
- Crew training

03

Usage and Maintenance



Manuals


Wilhelmsen
Ships Service
Timm™ Master 12 SBA™
Use and Care Guidelines for Mooring Ropes
Product features
1 Installation should be carried out by experienced crew, according to the manufacturer's instructions
2 Regularly maintain mooring winches and fittings
3 This rope is equipped with SBA™
4 Keep ropes covered and away from sunlight when not in use
5 Do not store ropes near chem
7 Conduct regular inspections
9 Work load limits
SBA™
Scan now
for e-dokter book
Wilhelmsen Ships Service
Phone: (+47) 67 58 40 00
Fax: (+47) 67 58 40 80
wilhelmsen.com
V2.0-042023
Postal Address:
PO Box 33, NO-1324
Lysaker, Norway

Mooring equipment maintenance

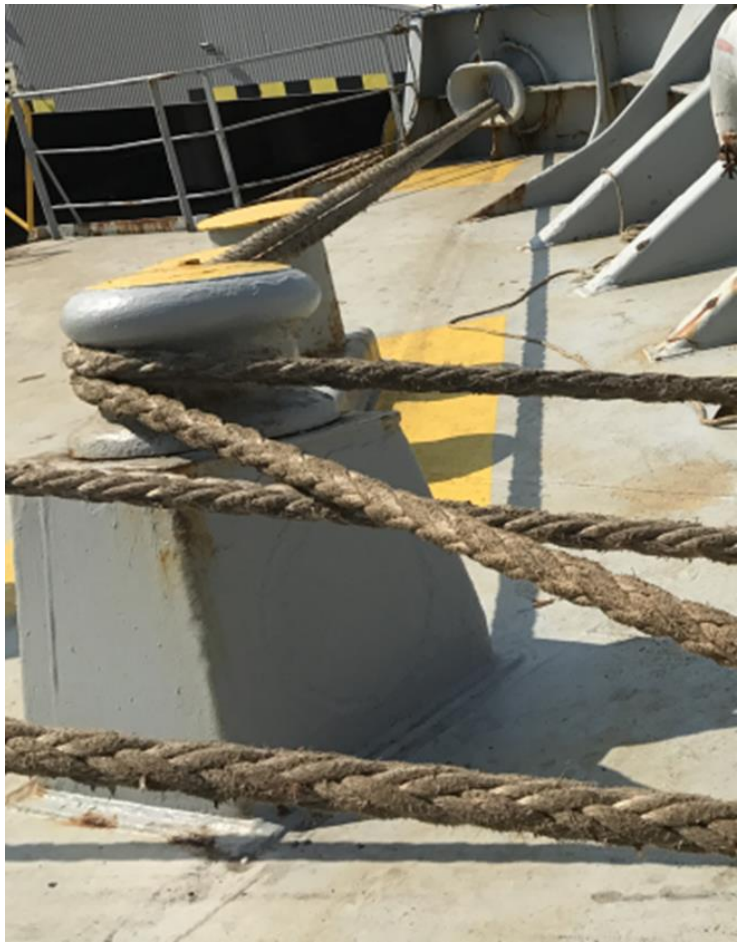
Use proper protection where needed

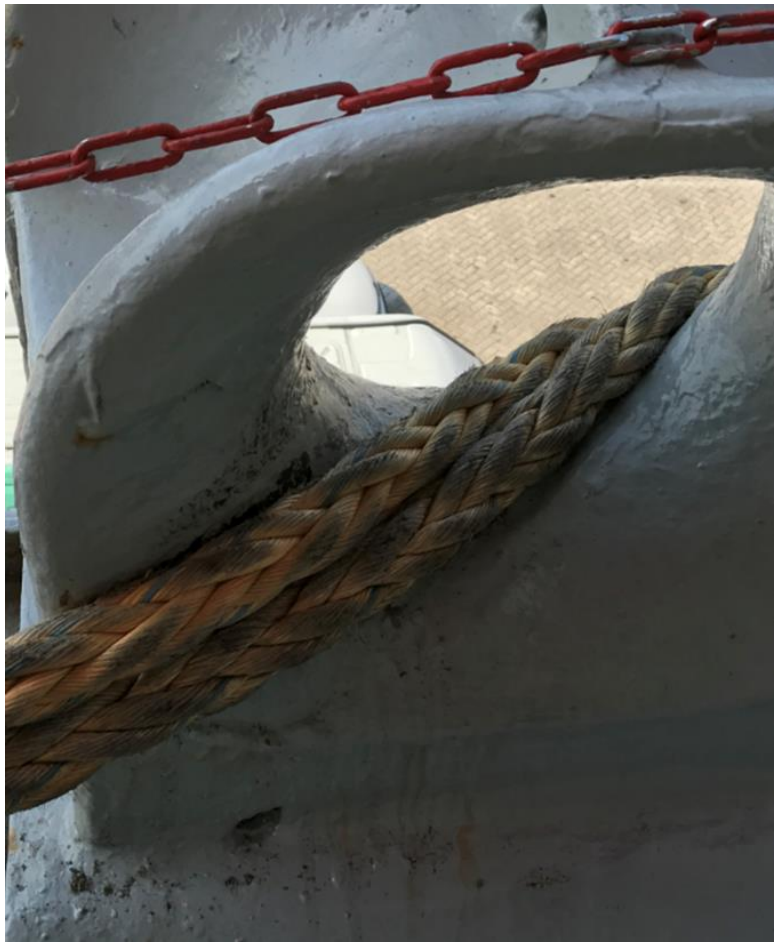
Tension drum – one layer only

- 5-6 turns for conventional ropes
- 10 turns for HMPE ropes

Rope's path – most direct line

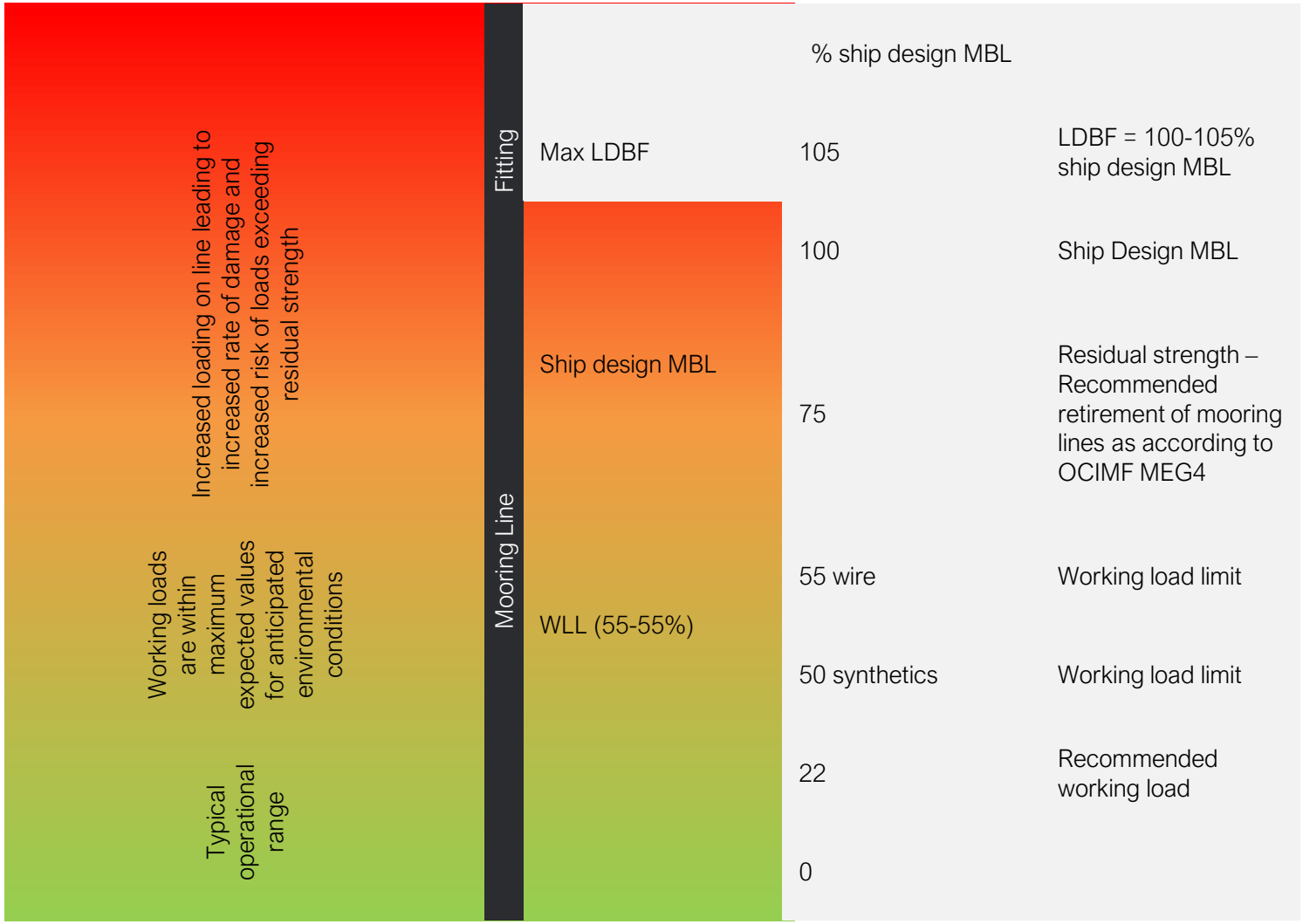
Ropes shall not touch each other





One twist on 1m of rope decreases the strength by 6%

Do not overload the ropes



Cover the ropes when not in use to avoid UV damage

Storage

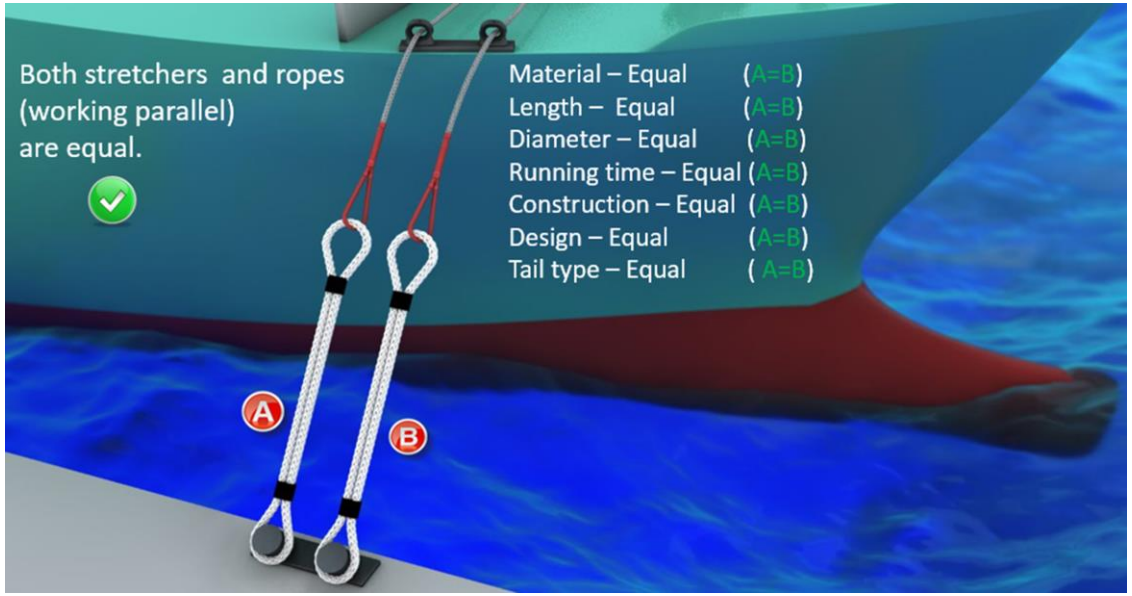
Keep away from chemicals

Keep away from sharp edges

Keep covered to prevent from UV

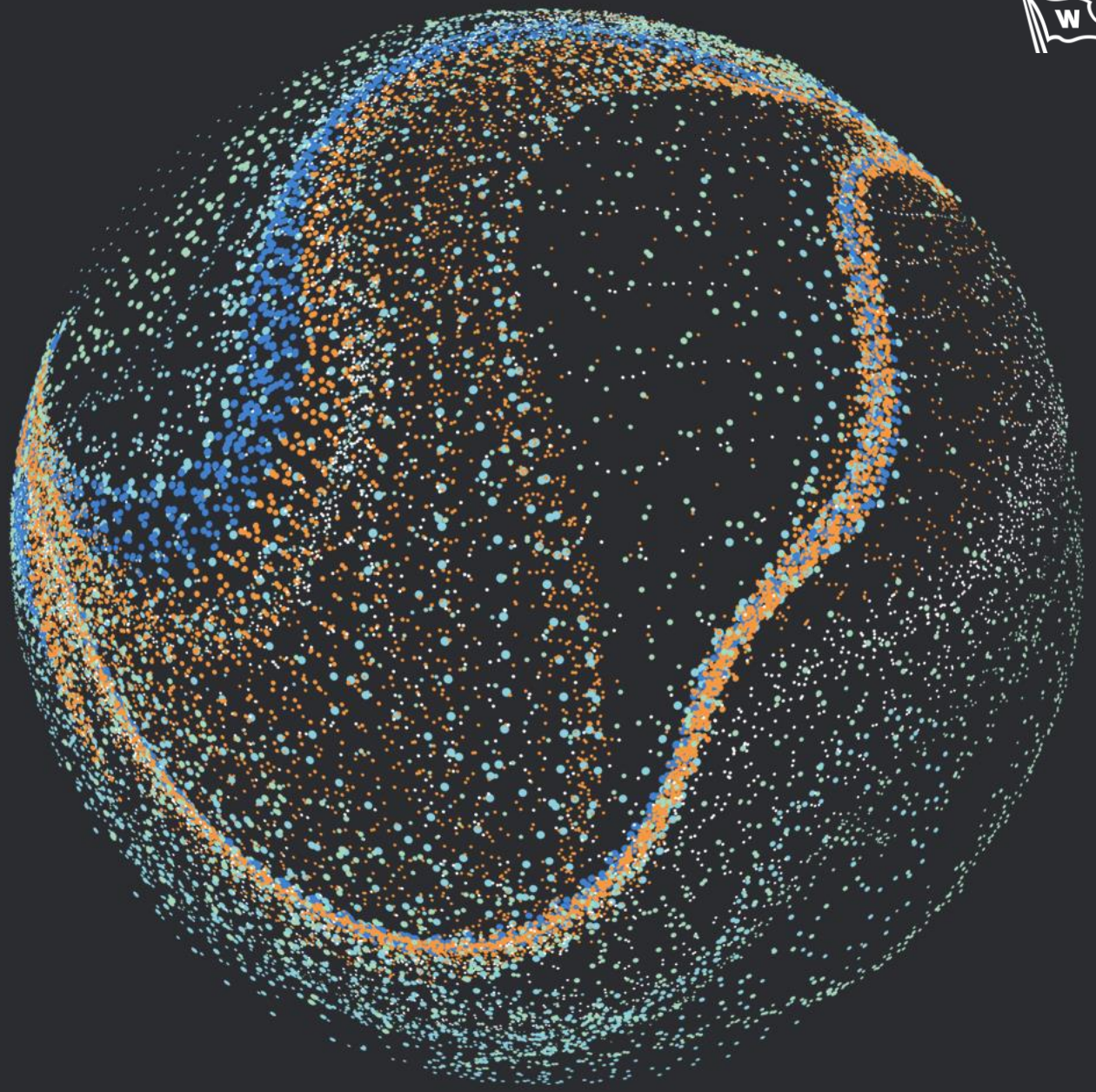
Avoid mixed moorings

Ropes of different type, material, construction… will behave differently and not cooperate

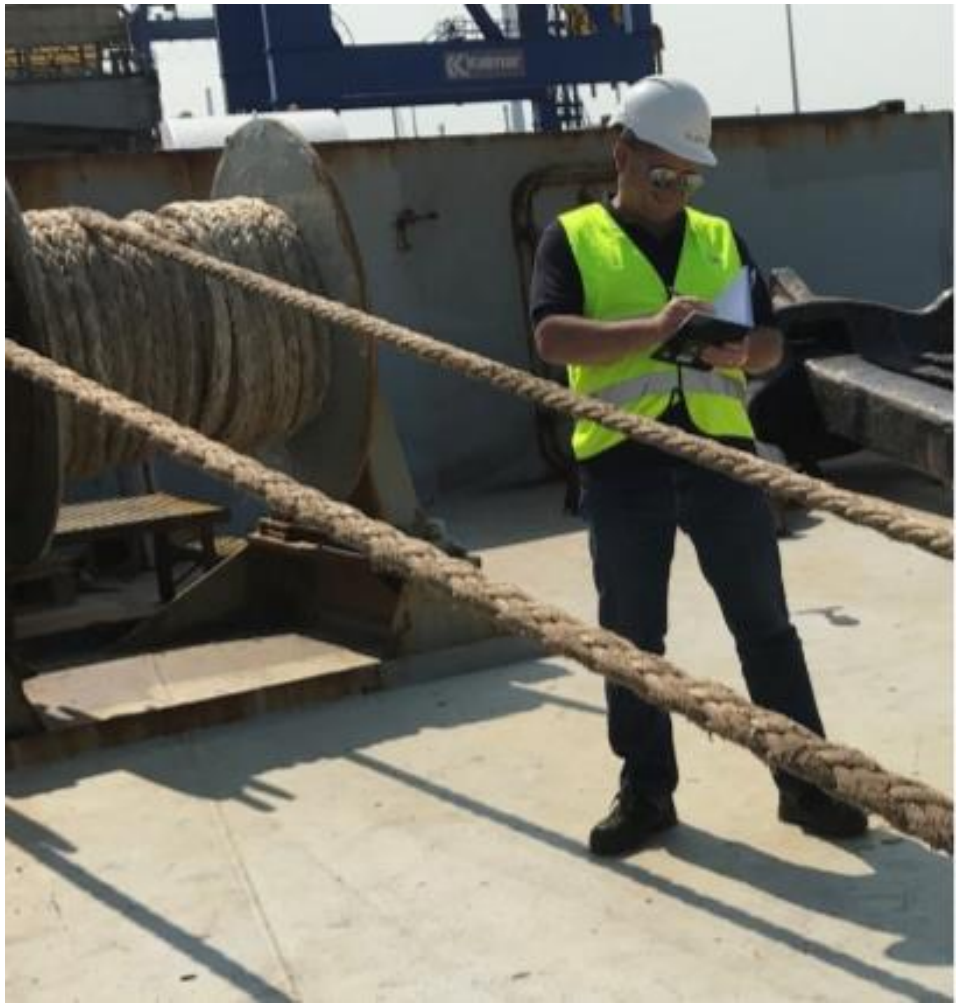


04

Inspections



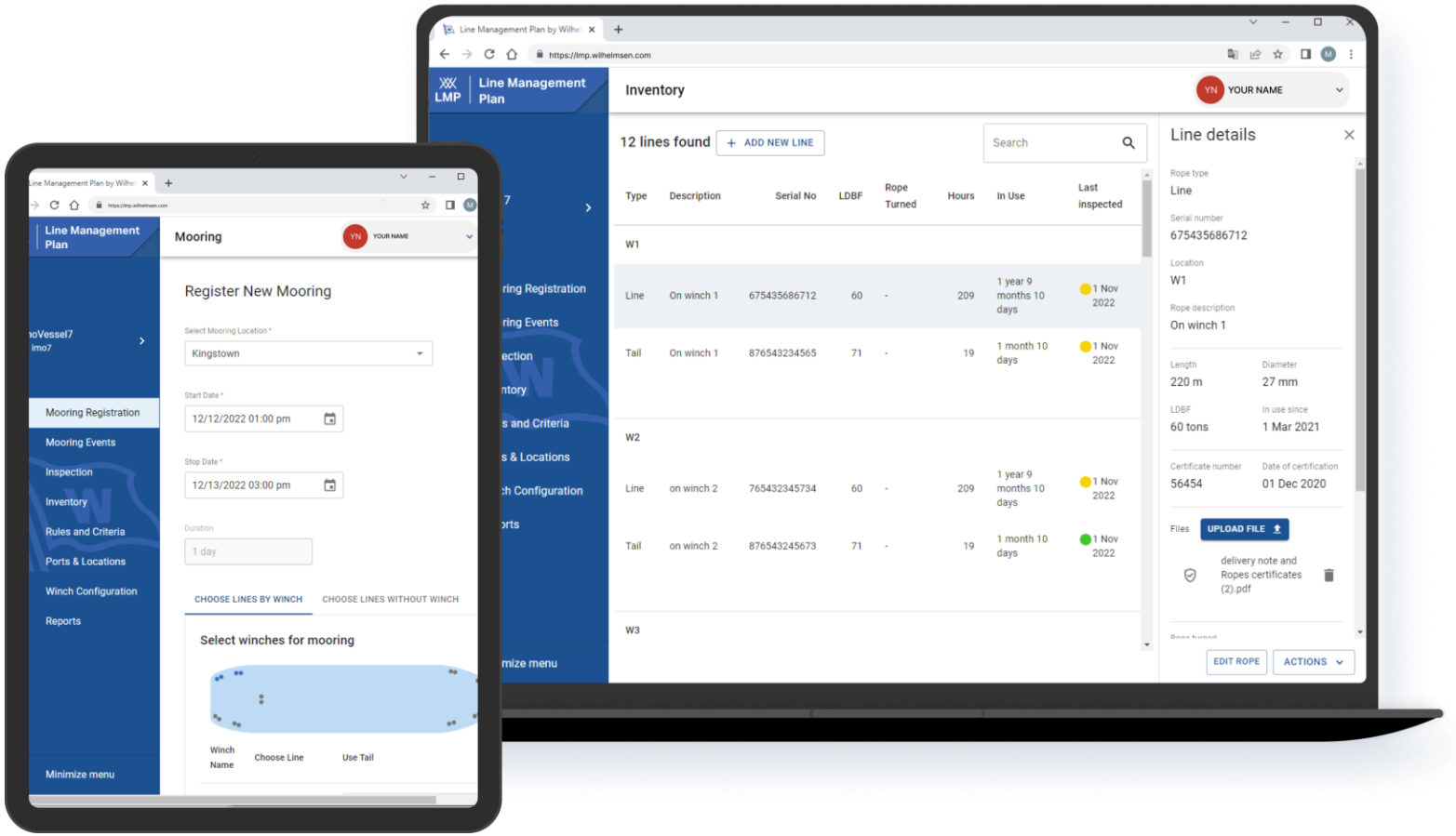
Inspections



- Regular inspections according to Mooring System Management Plan
- Inspect the rope after each mooring operation
- Inspection should be done by experienced crew member
- Inspections done by manufacturer/expert
- Use manufacturers product specific guideline

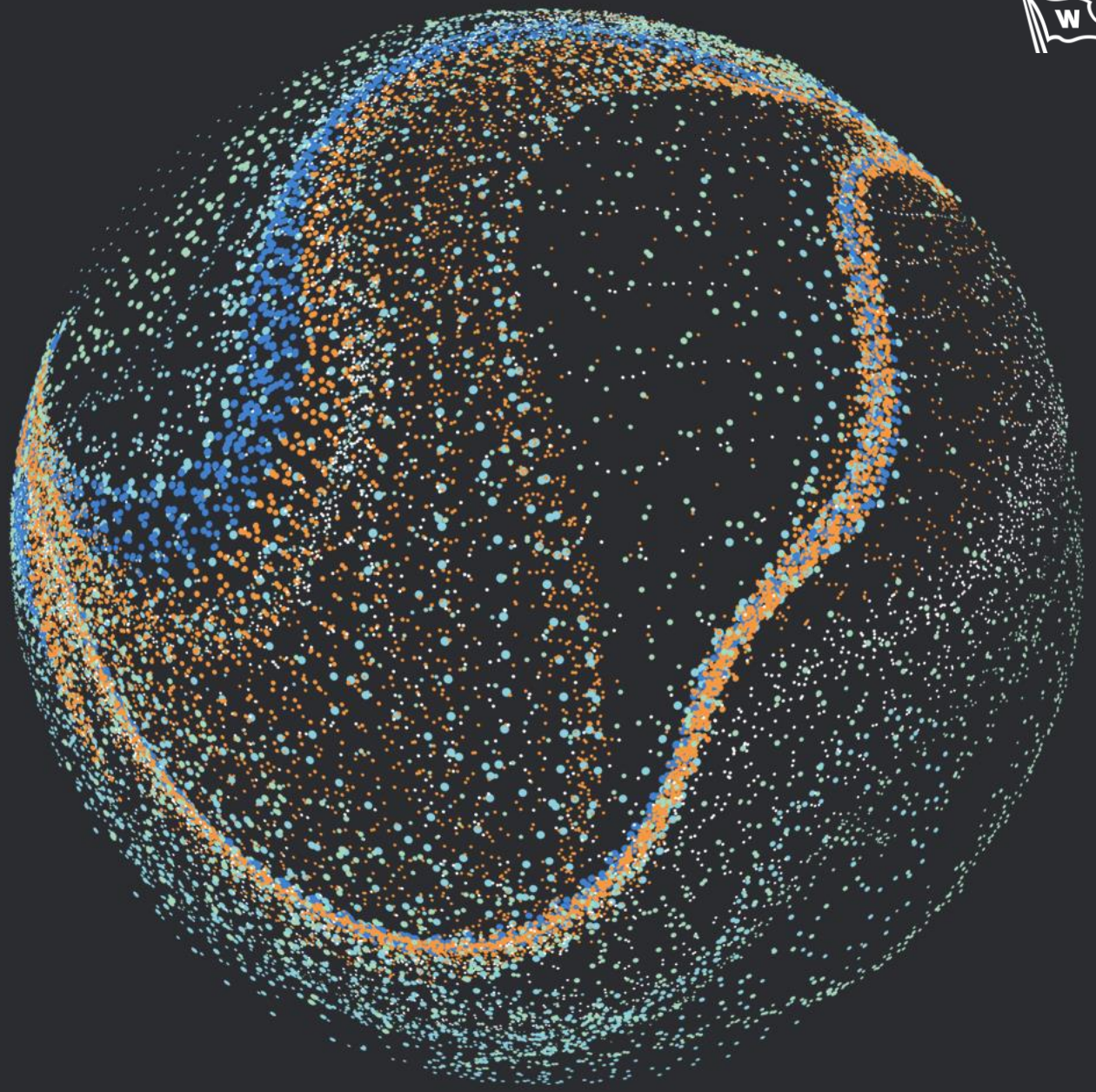
LMP helps your crew to stay compliant

- One place for certificates, manuals and retirement guidelines
- Full Inventory with all mooring ropes and locations
- Easy to register mooring events
- Easy to register and follow up on rules and criteria for when to inspect, rotate, turn and retire your ropes
- Easy to register inspections and keep a log of inspection history



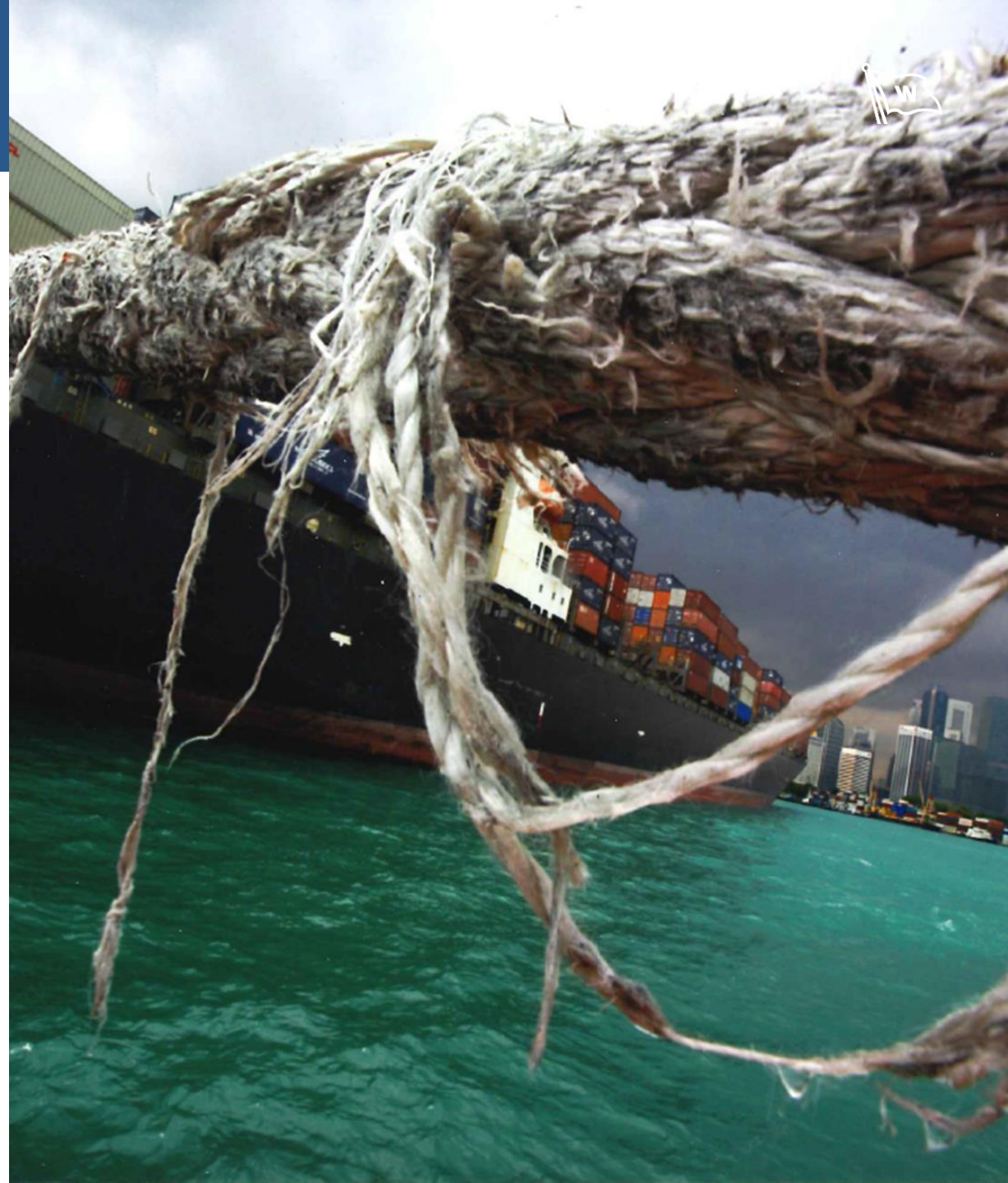
05

Rope Retirement



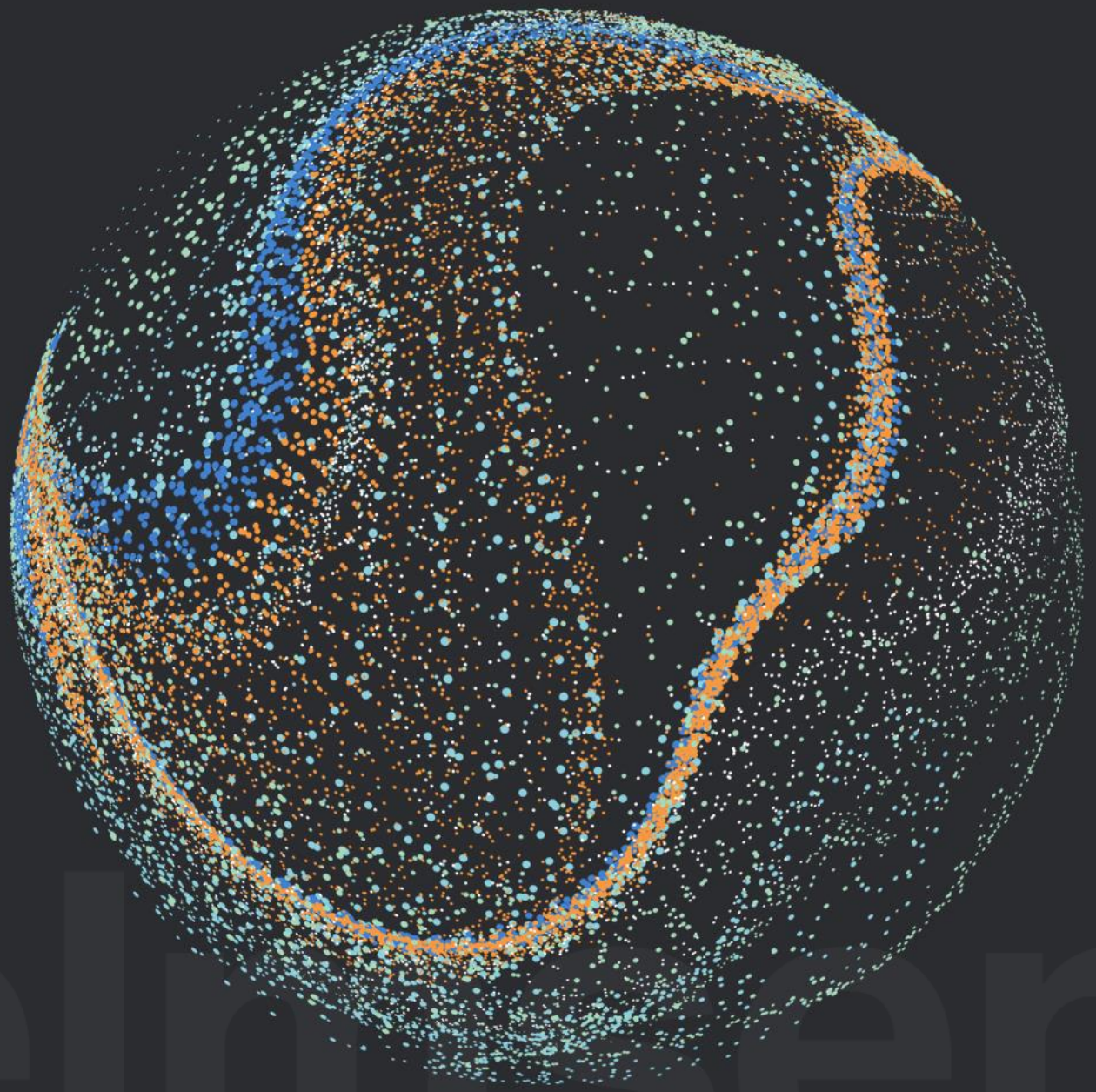
Rope Retirement

- Manufacturer’s recommendation
- Usage history (with incidents)
- Inspection reports
- Residual strength testing
- Learn and build database with active usage of LMP and cooperation with manufacturer



Wilhelmsen Ships Service

Thank you!



VERONIKA ASPELUND
Vice President – Mooring solutions

Mob: +47 928 33 483
Email: veronika.aspelund@wilhelmsen.com

Wilhelmsen Ships Service
Lysaker, Norway
wilhelmsen.com