



**From saving the oceans.
To safeguarding the planet.**

CORPORATE PRESENTATION





WHO WE ARE



ERMA TECH GROUP - Experience that can be trusted

The **ERMA TECH GROUP** is a global leader in sustainable technology, offering advanced solutions for the protection of the environment.

50+

Years of Experience in Marine
Water & Wastewater Treatment

>500

FT
Employees

>50

Operational Points Worldwide
(Sales - Service - Training)

>4,100

BWTS
Fitted Vessels

>3,500

Sewage Treatment Systems
Installations

>23,000

Oily Water Separator
Installations



From saving the oceans. To safeguarding the planet.



ERMA TECH GROUP - Where we are



From saving the oceans. To safeguarding the planet.

ERMA TECH GROUP - Evolution

1977

EPE
ESTABLISHMENT



2005

VIPAS FACTORY
COMMENCES OPERATIONS



2009

ERMA FIRST
ESTABLISHMENT



2018

NEW OFFICES:
BUSAN, N. KOREA



2018

NEW OFFICES:
SHANGHAI, CHINA



2019

ACQUISITION
METIS



2020

DEVELOPMENT OF
AMP, BLUE CONNECT



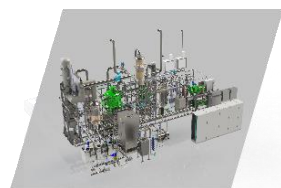
2021

ACQUISITION
oneTANK



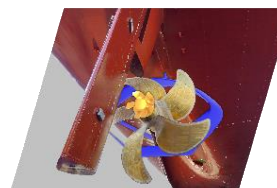
2021

DEVELOPMENT OF
CCS, CARBON FIT



2021

DEVELOPMENT OF
ESDs, FLEX SERIES



2021

ACQUISITION
RWO



2024

ACQUISITION
ECOCHLOR



2025

ETG
ESTABLISHMENT



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WHAT WE DO



The ERMA TECH GROUP Product Range



From saving the oceans. To safeguarding the planet.



DECARBONISATION

Energy efficiency is no longer optional. It's strategic.



ERMA FIRST FLEX SERIES

Energy Saving Devices for Hull and Propeller

The complete propeller efficiency solution via ERMA FIRST ESD Series with FLEXCAP, FLEXRING and FLEXFIN.

- Next-Generation ESDs
- Unique 3-part package solution
- Considerable fuel savings available
- FLEXFIN set complimentary with each FLEX Series order*
- Ship-specific design to secure maximum efficiency gains
- Future-proof for all energy-saving interventions, including wind-assistance propulsion
- In-house CFD calculations, based on operator's input
- CII / EEXI improvement, securing compliance for up to 4 years
- RightShip Zero Harm Innovation Partners

Ex Works deliveries in Europe and China.

*limited time offer



DECARBONISATION



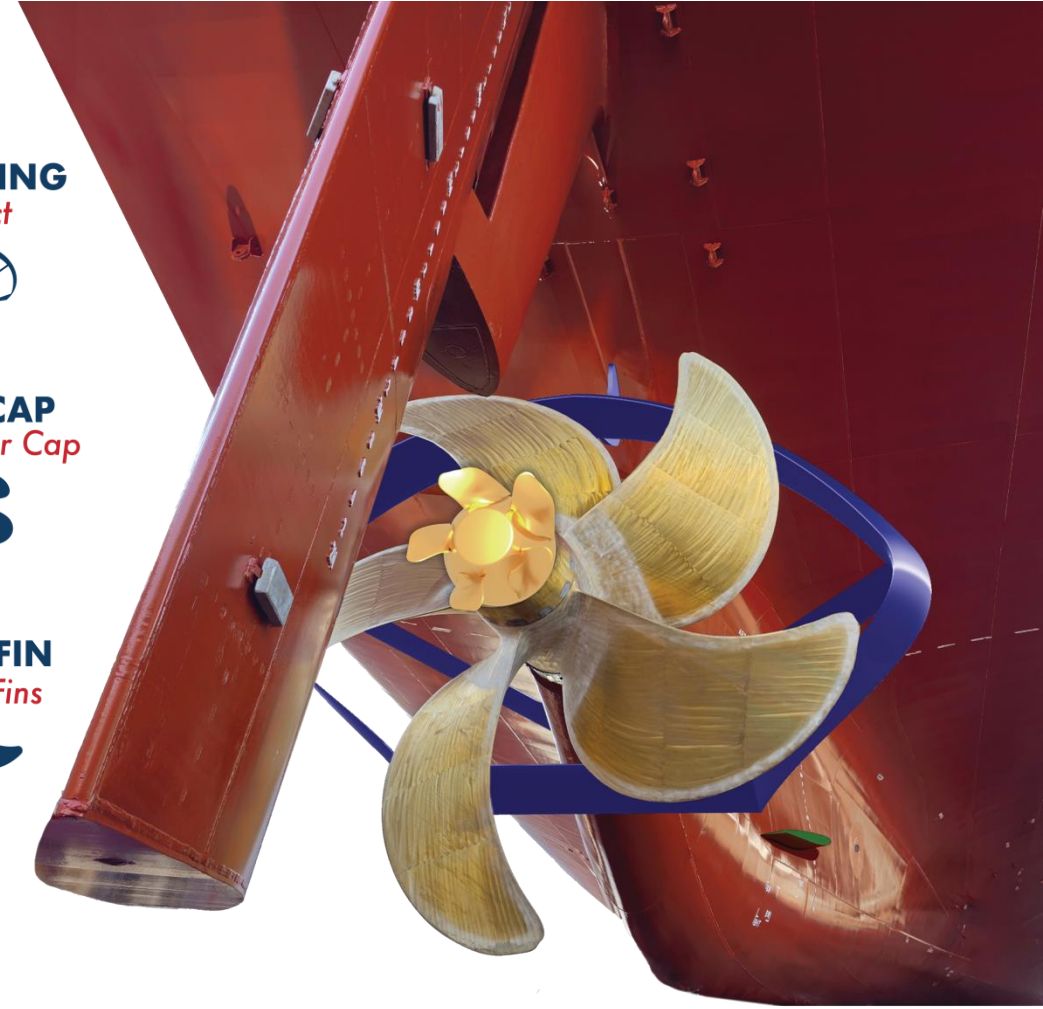
FLEXRING
Duct



FLEXCAP
Propeller Cap



FLEXFIN
Hull Fins



ERMA FIRST



ERMATECH
GROUP

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ERMA FIRST FLEX SERIES

Energy Saving Devices for Hull and Propeller

DECARBONISATION



FLEXCAP Propeller Cap



ERMA FIRST FLEXCAP

FLEXCAP helps to reduce the formation of hub vortex, which can in turn reduce the propeller's efficiency, causing cavitation and noise.

The Cap fins cancel out the vortices generated at the root of each propeller blade, reducing the torque demanded for the same RPM and can occasionally generate additional thrust.

FLEXRING Duct



ERMA FIRST FLEXRING

FLEXRING guides the flow towards the propeller increasing the speed at the areas of obstructed flow and improving propulsive efficiency.

In addition to some thrust that develops on the duct, with proper alignment of the fins (*optional), a pre-swirl effect is created, further increasing the efficiency of the propeller.

FLEXFIN Hull Fins



ERMA FIRST FLEXFIN

A set of fins properly placed and aligned, guide the flow around the hull in a way that it is more evenly distributed, reducing resistance and assisting in directing better flow to the propeller.

WHY FLEX SERIES

FLEXCAP

- 2nd Generation Propeller Cap
- The only propeller cap with adjustable fins in the market
 - ✓ Fin size and angle can adjust according to vessel's operating profile changes
- The only custom-made propeller cap in the market
 - ✓ Fins' size and angle are selected following a vessel's specific CFD ensuring maximum savings – We do not believe that one size and type fits all!
- Easily replaceable fins in case of changes to vessel operating profile or if the propeller / fins are damaged in some way
- The only propeller cap approved by RightShip under the Zero Harm Innovation Partner program
- Complete propeller efficiency solution via ERMA FIRST's ESD Series, which includes FLEXCAP, FLEXRING and FLEXFIN
- Turnkey solution, including:
 - ✓ In-house open water CFD
 - ✓ Project management
 - ✓ Class approval engineering
 - ✓ Worldwide installation supervision
 - ✓ Underwater or afloat installation



DECARBONISATION



FLEXRING

- The only adjustable pre-swirl duct in the market
- The vertical parts of duct's angle are selected based on specific vessel's design and operating profile, ensuring maximum performance
- Modular design allowing easy installation
- Due to the geometry of the ring, no drag risk is introduced on the vessel
- Turnkey solution, including:
 - ✓ In-house open water CFD
 - ✓ Project management
 - ✓ Class approval engineering
 - ✓ Worldwide installation supervision



ERMA FIRST BLUE CONNECT

Alternative Maritime Power (AMP)



DECARBONISATION



BLUE CONNECT is the Shore Power solution designed and offered by **ERMA FIRST**.

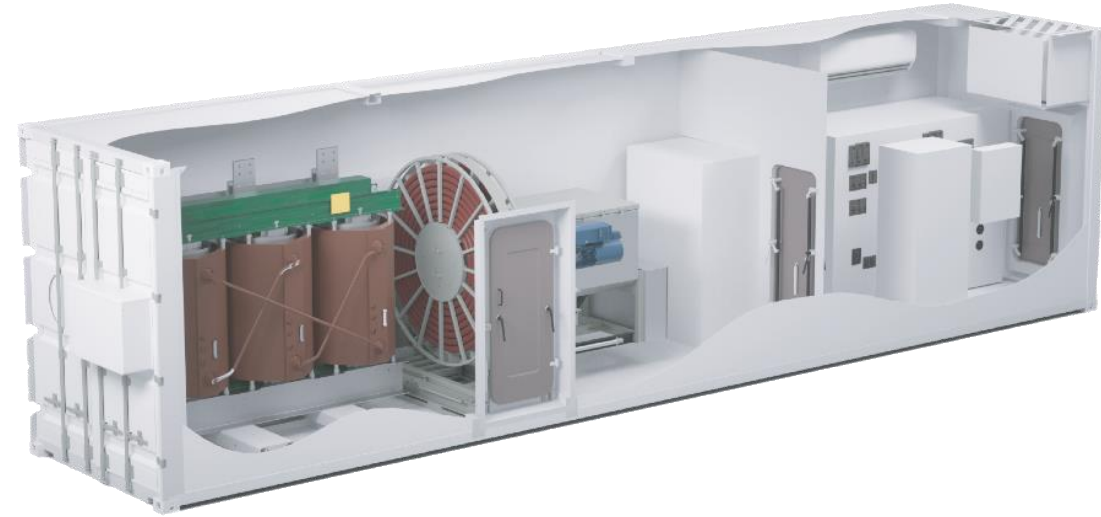
Shore Power is the connection of the vessel to the port's electrical grid in order to power onboard systems and equipment. This enables the vessel's diesel generators to be switched off with a resultant reduction in noise and emissions, including particulate matter, nitrogen, sulphur and carbon oxides, and volatile organic compounds.

Vessels with power demands higher than 1MVA must establish High Voltage Connections (6,6kV or 11kV) with the Port power grid, implementing suitable equipment according to international regulations and ports requirements.

ACHIEVES REGULATORY COMPLIANCE, IMPROVES CII INDEX, REDUCES GHG INTENSITY

- Advanced engineering
- Turnkey approach
- FuelEU and CARB compliant - Zero air emissions at berth
- Reducing OPEX and maintenance costs
- Improving port's microclimate and seafarers' working conditions

AVAILABLE FOR: Ro-Ro/Ro-Pax, PCTC, Ferries, Containers, Cruise, Tankers



DNV
Recognized as an ESD
for its positive impact on CII performance

BV
Approval in Principle
(AiP)

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WHY BLUE CONNECT

DECARBONISATION



➤ Flexible, Reliable & Competitive Design Configurations

- ✓ **Reliability & optimized footprint:** type-tested, factory-assembled and maintenance-free, switchboards with class approval
- ✓ **Safety:** Utilization of Fail-Safe safety relays for Emergency Shut Down conditions
- ✓ **Protection, Monitoring & Control:** Developed in house monitoring, control & synchronization platform based on PLC automation with multifunction protection device integrated
- ✓ **Communication:** Open device communication protocol with self diagnostics, developed for Integration with IoT Services, Data Logging and vessel's PMS & AMS
- ✓ **Upgrades & Modernization:** Standard Fiber Optic provision on shore ship interface equipment and on the control station to address future upgrades on communication protocols/requirements with shore
- ✓ **Compatibility Assessment Support:** Globally Designed according to all the latest standards

➤ Strong know-how on Systems integration

➤ Skilled & Responsive Support Team

➤ Competitive offering based on a wide approved components sourcing capability.

ARMADA TECHNOLOGIES

Passive Air Lubrication System (PALS)

The world's first **compressor-free**, passive air lubrication system (PALS) offers the vessel owner genuine fuel savings.

Armada Technologies' Passive Air Lubrication System (PALS) uses the forward motion of the ship to draw air from the deck and to create a precise air-water mixture for lubrication.

- No compressors
- Significantly less power
- Different operating modes based on vessel's speed and sailing weather conditions

DECARBONISATION



Strategic partnership:



WHY ARMADA PALS

DECARBONISATION



➤ No Compressors

- ✓ 30% increased efficiency in developing the air lubrication effect*
- ✓ Reduced underwater radiated noise signature
- ✓ Lower maintenance and less workload on crew to manage the system
- ✓ Theoretically no 'off' condition that would otherwise induce drag

➤ Quicker Installation

- ✓ Installation within 7-days (hull integrity scope)
- ✓ Modular design means PALS fabrication can be decoupled from project timeline
- ✓ No need to match ALS install with sub-cooler or other large retrofit project dry-docking
- ✓ Small Footprint

➤ System Controllability

- ✓ Ability to control system output for refined environmental tuning as each pod is a separate operating unit
- ✓ Increased effectiveness of air lubrication over the vessel's entire operating profile
- ✓ Potential for long distance course-keeping to reduce rudder angle deflection

➤ Significantly Reduced Dependence on Sea State

- ✓ PALS has a much wider operating window compared to first generation Air Lubrication technologies

Strategic partnership:



ERMA FIRST CARBON FIT Amine

Onboard Carbon Capture & Storage (OCCS)

DESIGNED FOR MARINE AND LAND APPLICATIONS.

CARBON CAPTURE Amine Absorption

This system relies on the proven amine absorption technology.

The amine solvent absorbs CO₂ from the flue gas in a specially designed absorber. The solvent is then regenerated through the application of heat, releasing the CO₂, which is subsequently liquefied and stored under cryogenic conditions onboard.

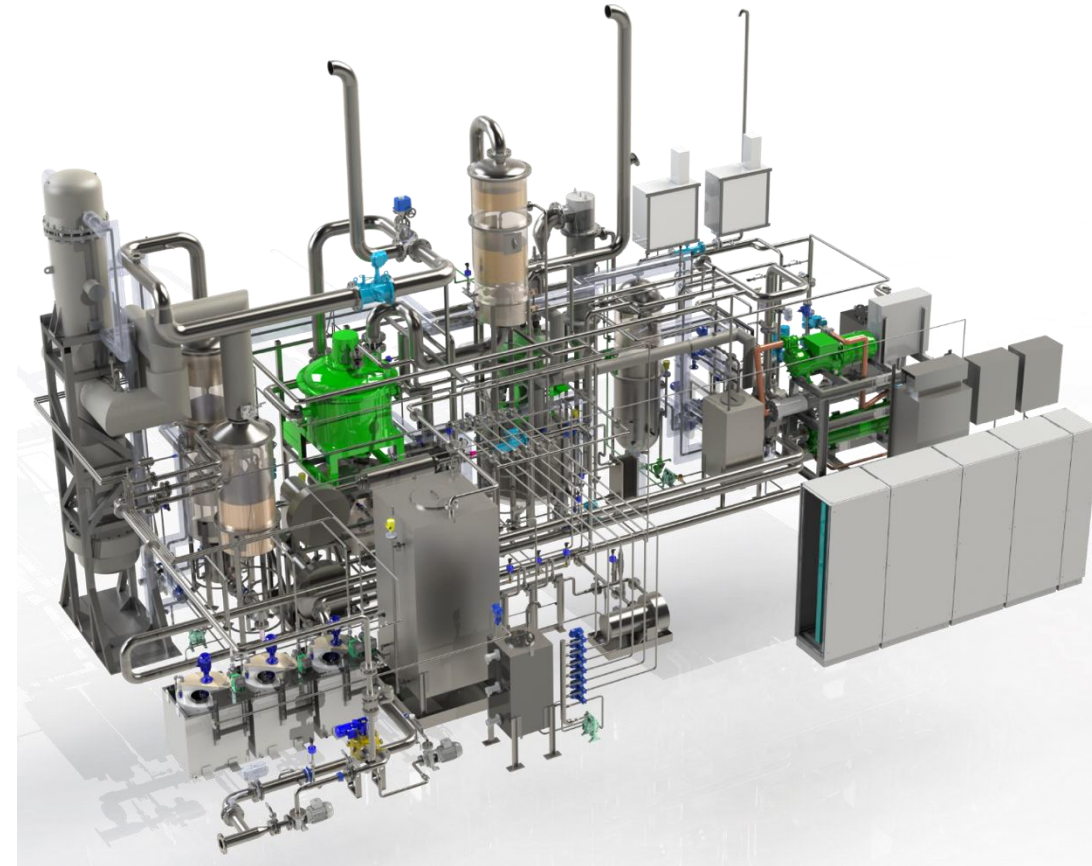
The regenerated amine solvent is then reused, creating a cyclical, efficient process for capturing and storing CO₂.

- Proven solution
- Recyclable process
- Eco-friendly

LR & DNV
Approval in Principle
(AiP)

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DECARBONISATION



ERMA FIRST



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GROUP

WHY CARBON FIT

- Extremely low footprint.
Absorber is more than 10 times smaller compared to conventional towers.
The absorber of a CARBON FIT 1000 Kg/h system is approximately 4m high and 2m diameter, while the CO₂ stripping can be achieved in an expansion tank.
- Performance of absorption and stripping unaffected by ship inclination.
- Possibility to install the system in vessels already equipped with EGCS.
- Modular installation.
Components are loose and can be installed at vessel available spaces.
- Exhaust gas economizer as a standard to reduce steam consumption to an absolute minimum.
- Purity of produced CO₂ up to food grade (>99.9% CO₂).
- Flexible offering including or not CO₂ liquefaction plant.
- Easy integration with vessels with installed EGCS burning HFO and able to operate on vessels which use ULSF.

DECARBONISATION



- Use of non-proprietary amine solution allows easy sourcing at competitive pricing.
- Remote monitoring and data analysis system with AI assistance ensuring high efficiency and remote operation/ trouble shooting support.
- Standard models offering from 165 kgCO₂ eq/ hr up to 2,500kgCO₂ eq/hr.
- Readily available product.
- CO₂ offloading offering on major ports*.
**Through affiliated partners. Terms and conditions vary per geographical location.*
- Turnkey solution, including:
 - ✓ Project management
 - ✓ Class approval engineering
 - ✓ Installation materials procurement
 - ✓ Installation supervision worldwide
 - ✓ Commissioning
 - ✓ Service and maintenance contracts

ERMA FIRST CARBON FIT Strong Alkali

Onboard Carbon Capture & Storage (OCCS)

CARBON CAPTURE FOR SHORT SEA SHIPPING.

CARBON CAPTURE Strong Alkali

This system utilizes potassium hydroxide as an inorganic alkali agent to capture CO₂.

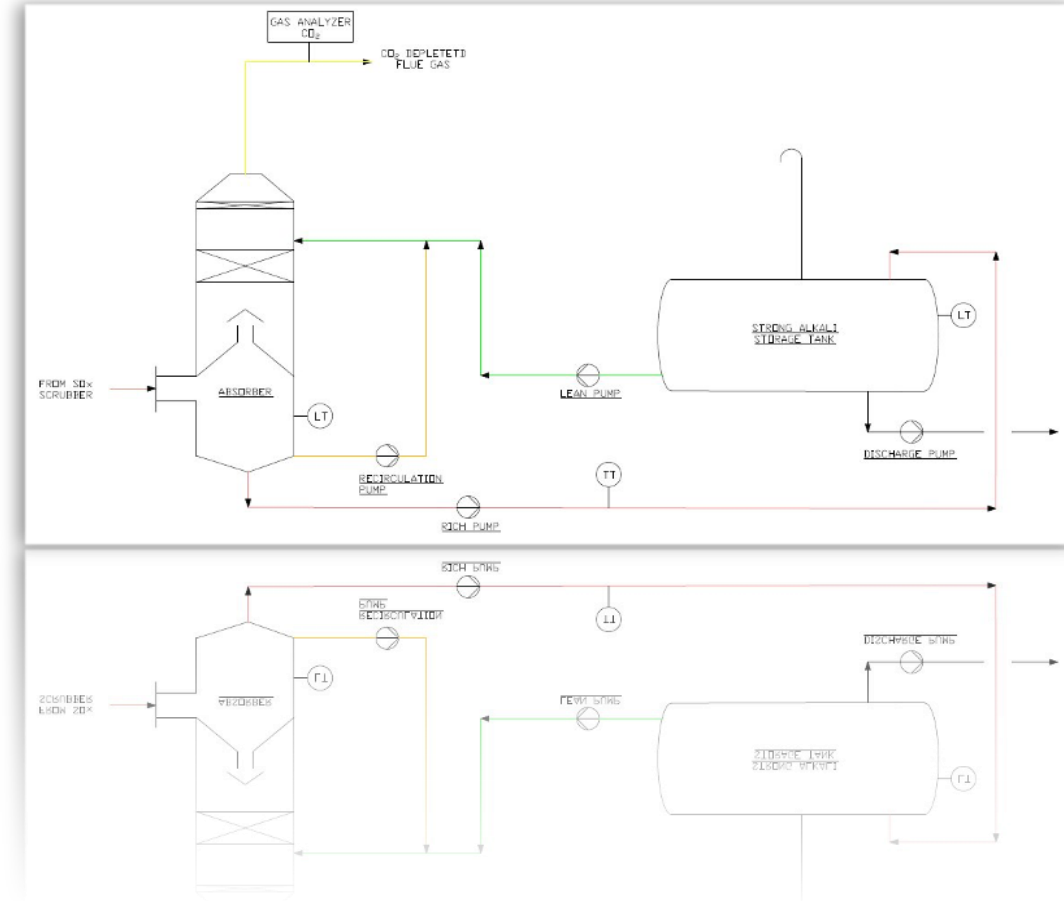
The flue gas reacts with the calcium hydroxide solution in a specially designed reactor, creating a calcium carbonate slurry as a byproduct.

This byproduct is then dehydrated and stored onboard until it can be disposed of at authorized facilities.

WHY ERMA FIRST CARBON FIT Strong Alkali

- Simplified method
- No waste production
- Sustainable
- The ultimate solution for short sea shipping trading

DECARBONISATION



NaviPULSE

Variable Frequency Drives (VFD)

DECARBONISATION



With **NaviPULSE VFD UPGRADE**, vessels can now achieve significant savings in the operation costs and power consumption of any kind of motor.

- Energy saving up to 75% on motors equipped with NaviPULSE
- Less fuel consumption, lower emissions
- Reduced maintenance costs and Improved motor life

APPLICATIONS Engine Fans, Cooling Systems, Winches, Hatches, Cranes, BWTS

Complete turnkey solution, including:

- ✓ Project management
- ✓ Class approval engineering work
- ✓ Installation material procurement
- ✓ Worldwide or afloat installation or installation supervision
- ✓ Worldwide commissioning
- ✓ Worldwide spare parts availability at ERMA TECH GROUP's spare part hubs
- ✓ Extended warranty options

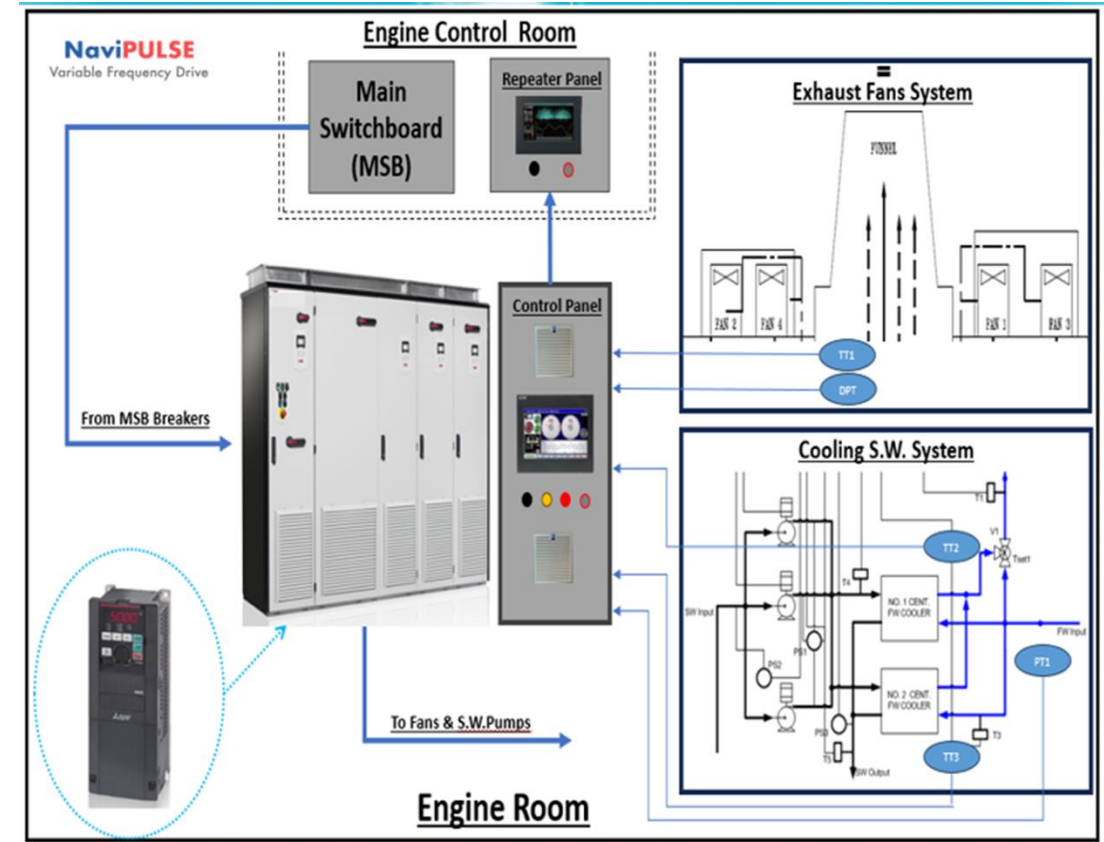


NaviPULSE
Variable Frequency Drive

WHY NaviPULSE

- Enclosed air-conditioned configuration suitable for vessels operating in warm climates, where saving is higher (longer cooling water pump & fans operating hours).
- Loose supply configuration with special selected connecting cables ensuring compliance with EMC rules.
 - ✓ Competitive offering
- Selection from wide variety of configurations, off the shelf products from the standard model's portfolio.
- Custom made configuration based on the large in-house engineering, automation and production capacity.
 - ✓ Smaller footprint
 - ✓ No cooling
 - ✓ Bypass option
 - ✓ Fast installation

DECARBONISATION



Dynamic Biofilm Protection Intelligent®

Ultrasonic Antifouling

AI-controlled Ultrasonic Antifouling technology Dynamic Biofilm Protection Intelligent® liquid carrying surfaces.

- Save cost from propeller cleaning
- Reduce fuel consumption and cuts CO₂ emissions
- Helps to improve the CII index
- Increases operational efficiency
- Stops the spread of invasive species
- Stops the release of heavy metals into our oceans by replacing copper anodes

APPLICATIONS

Propeller / Pod Drives, Seawater Cooling Systems,
Freshwater Generators, Bow Thruster / Stern Thruster.

Dynamic Biofilm Protection Intelligent®

Ultrasonic Antifouling

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DECARBONISATION



HASYTEC



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PERFORMANCE MONITORING

Flow & Torque Meters, Data Acquisition

DECARBONISATION



One-stop solution for data measuring and acquisition for performance monitoring.

An integrated data acquisition suite combining mass flow meters, torque sensors, and advanced logging systems, designed to ensure compliance with IMO's DCS emissions monitoring regulations and enable performance-based environmental monitoring.

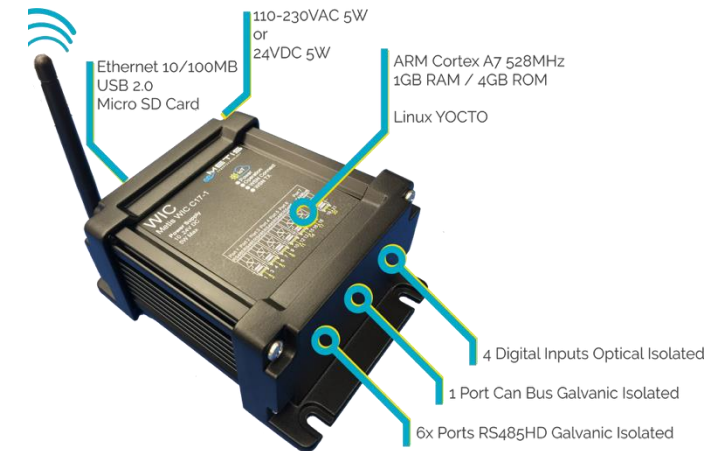
ERMA TECH GROUP's emissions data package delivers real-time, high-accuracy insights through a seamless combination of flow, torque, and propulsion analytics - empowering shipowners to meet CII and EEXI compliance with confidence.



AMIO Flow Meters



DATUM Torque Meters



METIS Ship Connect Data Acquisition

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AMIO Flow Meters

- High-quality product at competitive pricing.
- Extended guarantee.
- Complete fuel consumption solution package, including Mass Flow Meters at consumption and return lines.
 - ✓ Integration & monitoring of the AMIO Flow Meters readings.
 - ✓ Automatic fuel consumption reports download per consumer.
 - ✓ Integration of AMIO Flow Meters with vessel's data monitoring system.
- Customized fuel monitoring solution based on in-house engineering, automation and production capacity.
- Calibration plan subscription which allows uninterrupted and compliant operation.

DECARBONISATION



METIS

The digital arm of the ERMA TECH GROUP



DECARBONISATION



Emissions

- DCS / MRV
- CII Analysis
- EU ETS
- FuelEU

Operations

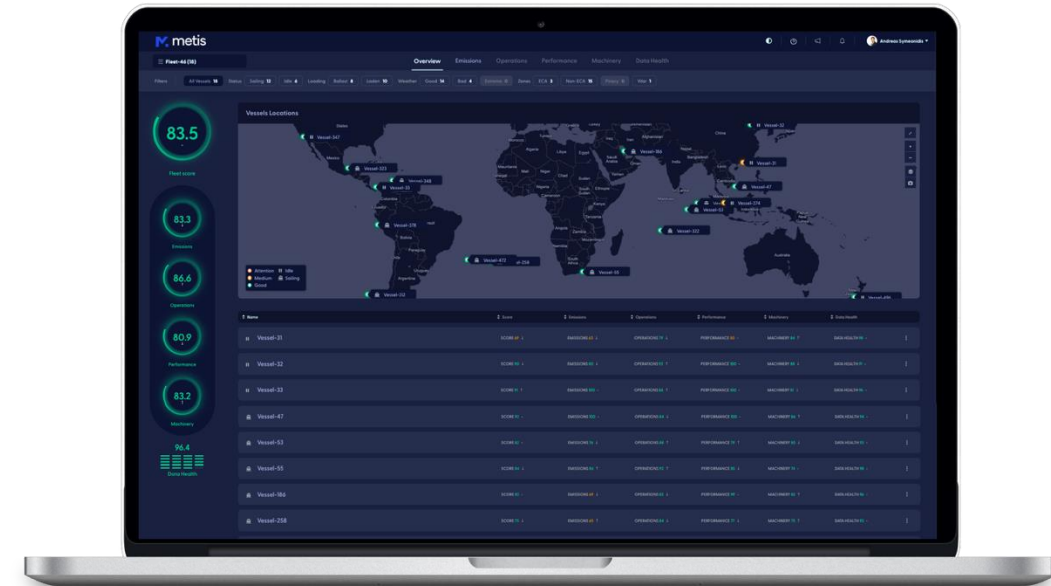
- Operation Analysis
- Voyage Planning
- Charterparty Compliance
- Route Optimisation

Performance

- Hull Fouling Analysis
- Predictive Hull Cleaning Recommendation
- Speed & Consumption at any draught and weather
- Propeller Running Margin

Machinery

- Main Engine Performance
- Diesel Generator Performance
- Boiler Operation Analysis
- AMS Alarm Monitoring
- Scrubber Monitoring



15

integrations with
3rd party providers

99.3

of signals arrive
in less than 30s

5,000

readings
per second

4_{mIn}

API data calls
per day

25,000

platform service
executions per day

350_{bIn}

total signal
measurements

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metis

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GROUP**



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WATER AND WASTEWATER

WWW.ERMATECHGROUP.COM



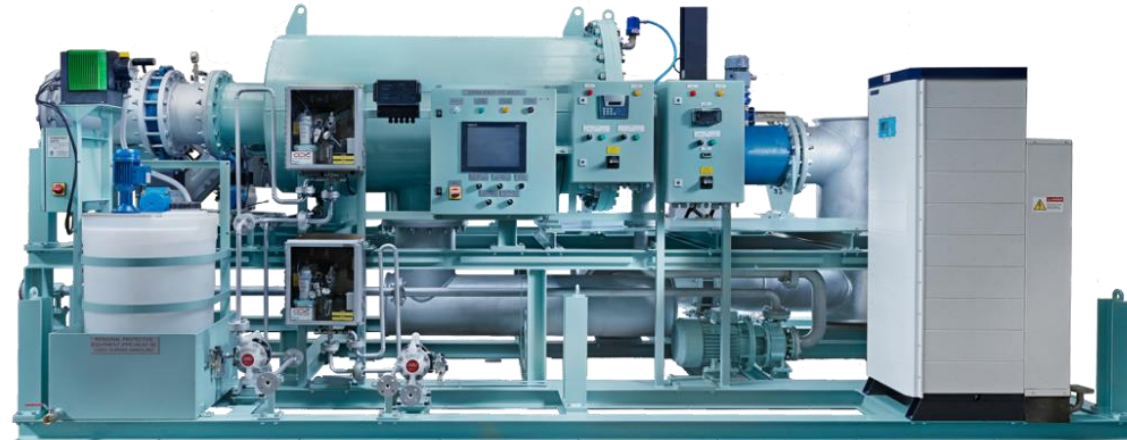


ERMA FIRST FIT BWTS

THE INDUSTRY-LEADING BWTS SOLUTION

No.1 in Market Share of the Global Bulk Carrier Fleet

15% Market Share of the Global Fleet



**Source:*

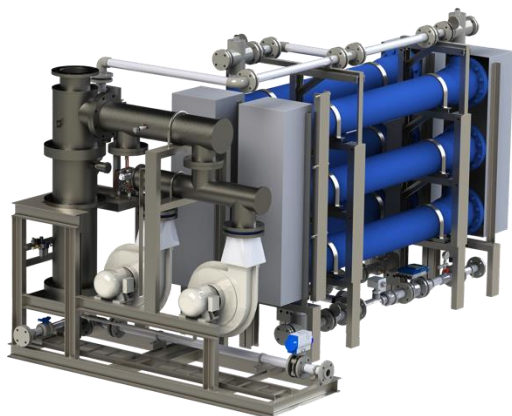




ERMA FIRST FLOW

Filterless Side-stream Electrolytic Ballast Water Treatment System

- Less maintenance, less OPEX
- Suitable for large ballast pump capacities
- Compact design / Advanced engineering



ERMA FIRST oneTANK

Filterless Chlorine Dosing Ballast Water Treatment System

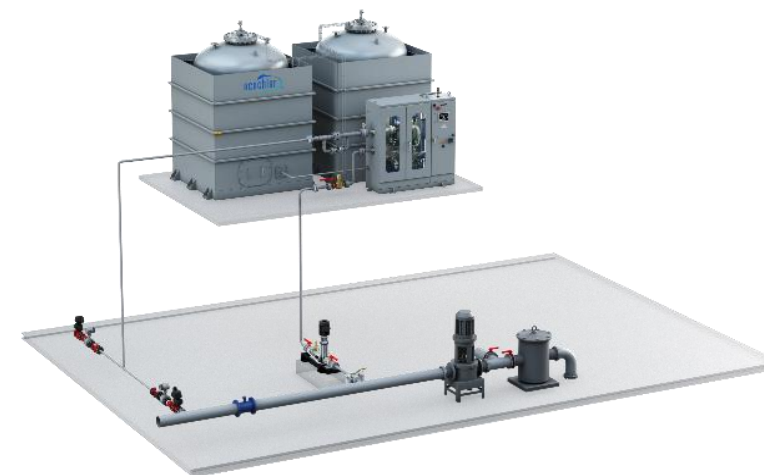
- In-tank treatment solution for tankers APTs
- Smallest BWTS globally
- Lowest cost globally (CAPEX and OPEX)
- Maximum flexibility (installation)



ECOCHLOR EcoOne

Chlorine Dioxide Dosing Ballast Water Treatment System

- Filterless, Hybrid and Containerized solutions
- No TROs
- Easy installation, operation and maintenance





WORLD LEADER IN BILGE OIL WATER SEPARATORS

23,000+ units sold

RWO OWS-COM



EPE POSEIDON FIT



SEWAGE TREATMENT

WATER AND WASTEWATER



BIOLOGICAL TREATMENT

RWO CS-BIO Standard STP



RWO CS-MBR Submersed Ultrafiltration (UF)
Membrane Bioreactor



PHYSICOCHEMICAL TREATMENT

EPE TRITON FIT Coagulation / Flotation Treatment



EPE TRITON EC Electrochemical STP



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RWO

epe
Engineered to Respond

ERMATECH
GROUP

FRESH WATER SOLUTIONS

“NO PLASTIC BOTTLES ONBOARD” INITIATIVE

Eliminate 9,000 - 18,000 bottles / ship / year

ADVANCED DRINKING WATER SYSTEM

EPE ALIOS Reverse Osmosis - Onboard potable water production

Pre-and post-treatment of water produced by evaporation, reverse osmosis and bunkered water

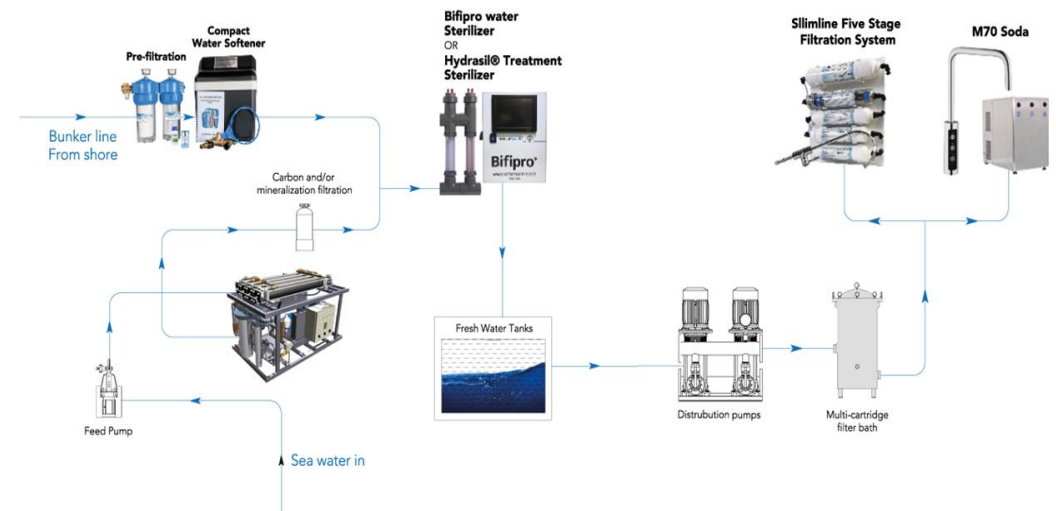
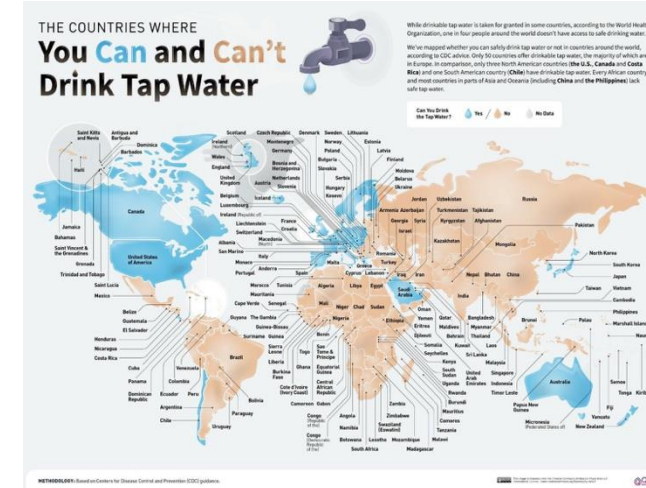
- 1-year ROI
- Direct control of drinking water onboard resulting to seafarers well being
- Less GHG, less waste
- More storage capacity, less storage of bottles and waste
- Water conservation
- Contribution to ESG

SERVICES

- Water safety plan
- Water analysis
- Emergency & maintenance disinfection
- Consulting services
- Training

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WATER AND WASTEWATER





MARINE EQUIPMENT & SERVICES



ENVIRONMENTAL PROTECTION ENGINEERING SINCE 1977

CATHODIC PROTECTION AND ANTIFOULING

- ✓ **POLCOR** Aluminum & Zinc Anodes
- ✓ Antifouling / MGPS Anodes
- ✓ Type Approval by **LR**
- ✓ Stock points in major ports
- ✓ Tailor-made designs
- ✓ Highest environmental standards

HAZDASH IHM Preparation and Maintenance Cloud-based Platform



PRINCIPALS REPRESENTATIONS Sales, Spares, Services and Technical Support

MARINE EQUIPMENT AND SERVICES



ALUMINUM & ZINC ANODES



ANTIFOULING / MGPS ANODES



CADMIUM-FREE ANODE SERIES



HOW WE DO IT



RESEARCH & DEVELOPMENT



Multidisciplinary Expert Team

Engineers in marine, chemical, mechanical, electrical, software
15+ full-time professionals in R&D.

Strong Innovation Pipeline

Focus on BWTS, Water & Wastewater, OCCS, Energy Saving,
Digitalization.

Strategic R&D Investments

7%+ of annual revenue re-invested in R&D and long-term Innovation
commitment.

Global Collaboration & EU Projects

Horizon Europe, Waterborne, ETC involvement partnerships with
universities & marine institutes.

Rapid Prototyping and Validation

Agile, onboard pilot testing, CFD modelling & in-house simulations.

Digital & AI Integration

IoT, AI-integration in product development, internal software and
analytics tools.

Sustainability-Driven Philosophy

IMO, EU Fit-for-55, ESG-aligned innovation.
Solutions for hard-to-decarbonize sectors.

Quality Embedded in Design

Continuous design-feedback loop.

Vision for the Future

Leadership in net-zero maritime technology.
Next-gen solutions for ocean sustainability, Waterborne, EIT involvement
partnerships with universities & marine institutes.

ERMA TECH GROUP - Engineering capabilities



|| PROJECT MANAGEMENT

|| PLAN APPROVAL

|| PROJECT SPECIFIC SOLUTIONS

|| IN-HOUSE SIMULATION AND DIGITAL TWIN

|| IN-HOUSE CFD CAPABILITIES

DESIGN
WITHOUT CUTTING CORNERS

ERMA TECH GROUP - Services



24/7 Technical Support, Hot-line, Remote Troubleshooting and Monitoring



GLOBAL Service Network, Spare Part Stock Points



ANNUAL Maintenance, Health Check & Sensor Calibration Services



ENGINEERING SUPPORT Before, During and After Installation



TRAINING Centers in Greece, Philippines & e-Learning

10,000+
Trainees

ERMA TECH GROUP - Spare Parts Platform



VISIT THE PLATFORM

CLICK 



FIND YOUR SPARES



SEND RFQ



RECEIVE AN OFFER IN 24HRS



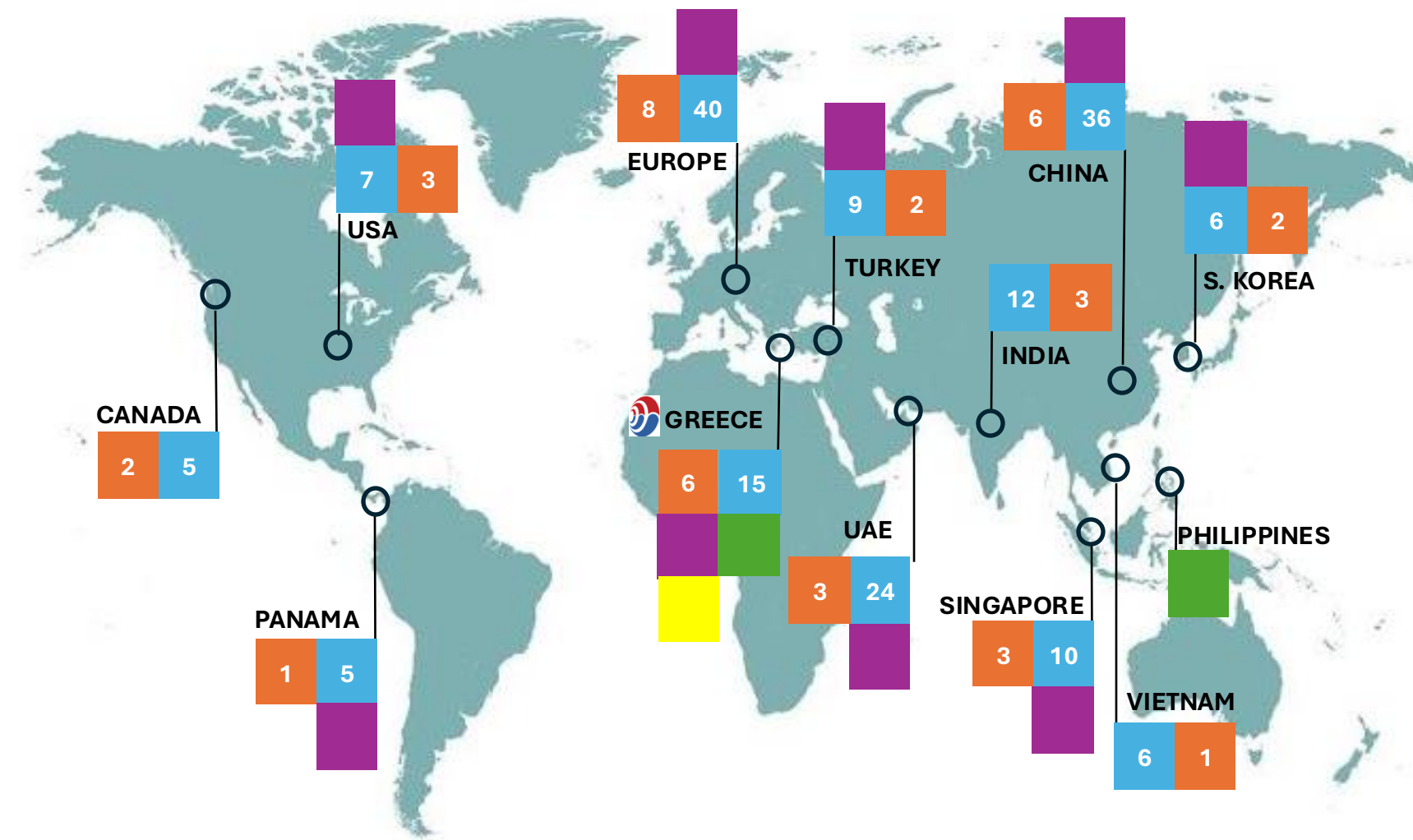
ERMA FIRST - Global Service Network

Solution Partner

Automation Drives



ERMA FIRST has been appointed as Siemens Solution Partner



-  **175** Total Field Service Engineers
-  **40** BLUE CONNECT Certified [TBC]
-  **9** Spare Parts & Consumables Stock Points
-  **12** Customer Service Agents
-  **2** Training Centers



WHY ERMA TECH GROUP



INNOVATION



PASSION



TRUST



TEAMWORK



RESPONSIBILITY

WWW.ERMATECHGROUP.COM



FUTURE PROOF - Fuel Agnostic Solutions

	MARPOL ANNEX I	MARPOL ANNEX IV	EU ETS	FUEL EU	IMO EEDI	SEEMP	IMO EEXI	IMO CII	USA CARB	ESG	BWMC
BLUE CONNECT			X	X	X	X	X	X	X		
FLEX SERIES			X		X	X		X			
CARBON FIT			X		X		X	X			
ARMADA PALS					X	X	X	X			
NaviPULSE			X	X	X	X	X	X			
PERFORMANCE MONITORING / AMIO						X	X	X			
METIS						X	X	X			
OWS	X										
STP		X									
FIT / FLOW / oneTANK / ECOCHLOR											X
FRESH WATER										X	

From saving the oceans. To safeguarding the planet.

ERMA TECH GROUP



Your Trusted Partner in Maritime Environmental Innovation

➤ Proven Legacy with a Vision for the Future

Here to stay - not a startup, but a globally recognized force in maritime technology since day one.

➤ Innovation with Purpose

In-house R&D and patented technologies, designed to meet real shipping needs - from ballast water and energy saving to carbon capture and data-driven compliance.

➤ Environmental DNA

Sustainability isn't a feature - it's who we are. Our solutions are engineered to help the industry transition to a net-zero future.

➤ One Stop Shop for Compliance

From IMO regulations to ESG strategies, we deliver complete solutions.

➤ Trust Built Through Experience

Long-standing partnerships with shipowners and shipyards worldwide, grounded in consistency, flexibility, and proven results.

➤ People Who Understand Shipping

Passionate, multidisciplinary teams that speak the language of seafarers, engineers, and fleet managers alike.

➤ Responsibility in Action

We don't just deliver systems - we stand by them. Every solution is designed to work, adapt, and evolve.

ERMA TECH GROUP - Giving back to society

ESG STRATEGY

- **DIGITAL TRANSFORMATION**
In-house mobile app (business cards, brochures)
- **WASTE MANAGEMENT**
Comprehensive waste recycling and composting programs
- **ENERGY EFFICIENCY**
LED lighting installed across all premises
- **SUSTAINABLE MOBILITY**
On-site car chargers and hybrid carpool
- **SUSTAINABILITY REPORT**
Audited report on company's ESG performance

CSR STRATEGY

- **EMPLOYEE TRAINING ON CSR**
- **REFURBISHMENTS OF LOCAL COMMUNITY BUILDINGS**
- **BEACH CLEANINGS**
- **REFORESTATIONS**
- **BLOOD DONATIONS**
- **EU MISSIONS CHARTER**
“RESTORE OUR OCEAN & WATERS”





THINK DECARBONISATION ...
THINK ENVIRONMENTAL PROTECTION ...
THINK ERMA TECH GROUP!



Contact us:

sales@ermatechgroup.com

WWW.ERMATECHGROUP.COM

