

Parker Racor Village Marine Tec. Break-out Session for Distribution



Robin MacDonald

Marketing and Sales Manager – Village Marine Tec.

Tel: 209-575-7443

ENGINEERING YOUR SUCCESS.

What do we do?

- Offer reverse osmosis water purification systems, components, and solutions for customers:
 - Pleasure
 - Sail and power boats
 - Commercial
 - Fishing vessels, workboats, oil platforms and seaside hotels.
 - Government
 - Navies
 - Disaster relief

Who are the Customers?

????????????
????????????
????????????
????????????
????????????
????????????
????????????
????????????
????????????



Sailboats, yachts, and trawlers – builders, and end-users

Sailboats, Yachts, and Trawlers

- Marine distributors
- Boat repair yards
- OEM boat builders
- OEM engine or genset dealers
- Marine service companies/technicians
- Bulletin number 7829 and 7839

Little Wonder and Sea Quencher Desalinators

LW and SQ Series



Contact and Reliable

No-Fritts with CE Certification

Market Application Publication



No-Fritts Series

The No-Fritts Series is constructed with all the standard "304" components which make it easy to install, maintain, and operate. It is built to the highest standards, but without the electronic "fritts" AC or high pressure configurations available on other models.

The No-Fritts Series is a CE certified unit that has been tested to meet the requirements of the CE mark. The No-Fritts Series has undergone rigorous safety testing to ensure it conforms to the following standards: clean drinking water and household standards.

- ISO 9001 - Machinery Directive
- EN 60334 - Safety of Machinery, Electrical Equipment of Machinery
- EN 60335-2 - Safety of Machinery, Small Construction Machines, General Principles of Design
- ISO 9001 - Degree of Protection Provided by Enclosure
- Pressure Vessel Directive - Sound Engineering Practice



VM120 Fritts 450 Modular (205 LFD)

Contact Information:

Parker Hannifin Corporation
Filtration Group
Racor Division- Village Marine Tec.
2000 West 135th Street
Gardena, CA 90249
phone 310 516 9911
fax 310 530 3048
www.villagemarine.com
www.parker.com/racor



Features and Benefits:

- Titanium high pressure pump for low vibration noise unsuppressed corrosion resistance.
- Magnetic drive low pressure pump provides up to 10 psi (70 BAR) of boost pressure to filtration system.
- 316 stainless steel, glycerin filled pressure gauges.
- Freshwater flush system included.
- Special hi-rejection Aqua Pro membranes.

ENGINEERING YOUR SUCCESS.



Offshore Marine SQ-150, 200



Village Marine LW-150, 200



Village Marine LW-150, 200

ENGINEERING YOUR SUCCESS.





Larger yachts - ship builders, captains, engineers, and end-users

Larger Yachts

- Marine distributors
- Boat repair yards
- OEM boat builders
- OEM engine or genset dealers
- Marine service companies/technicians
- Captains, engineers, and end-users
- Bulletin number 7783

Pure Water Series

400-2,000 GPD
(1.5-7.5 m³/day)
Specifications



For Commercial Marine Applications

The Pure Water (PW) Series is designed to provide installation flexibility, superior performance, and extended service life in the most rugged conditions. Designed for 24 / 7, continuous-duty applications, where reliable fresh water supply is critical.



Village Marine PW-400-2000

Contact Information:

Parker Hannifin Corporation
Racor Division/Village Marine Tec.
2000 W. 135th St.
Gardens, CA 90249

phone 310 516 9911
fax 310 536 3048
racor@parker.com
www.villagemarine.com

www.parker.com/racor



Aqua Pro™ Pump-705-5

Key Feature:

At the core of each PW series watermaker is the Aqua Pro™ 5 plunger high pressure pump:

- Titanium head for maximum corrosion resistance.
- Balanced drive for lowest noise and pulsation.
- Ceramic plungers and nylon valves for long service life.




ENGINEERING YOUR SUCCESS.



**Fishing vessels, ship builders, seafood companies, and crew boats
– captains and engineers**

Fishing Vessels, Ship builders, Seafood Companies, and Crew boats


- Marine **distributors**
- Boat repair yards
- OEM boat builders
- OEM engine or genset dealers
- Captains, engineers, and end-users
- Marine service companies/technicians
- Bulletin number 7807




Pure Water Series

400-18,000 GPD (1,514-68,137 LPD)
For Commercial Marine Applications


The Pure Water (PW) Series is designed to provide installation flexibility, superior performance, and extended service life in the most rugged conditions. Typically used in 24 / 7, continuous-duty applications, the PW Series is fully operational from an optional remote control.



VMF-PW 400-2000 GPD (1,514-7,571 LPD)
Modular System



VMF-PW 400-2000 GPD (1,514-7,571 LPD)
Semi-Modular System



VMF-PW 400-2000 GPD (1,514-7,571 LPD)
Horizontal Frame System



Workboats, repair yards, oil companies, exploration, design firms, and ship builders - technicians, engineers, and end-users

Workboats, Repair Yards, Oil companies, Exploration, Design Firms, and Ship Builders

- Marine **distributors**
Technicians
- Engineers
- Owners
- OEM engine or genset dealers
- Bulletin numbers 7807 and 7799



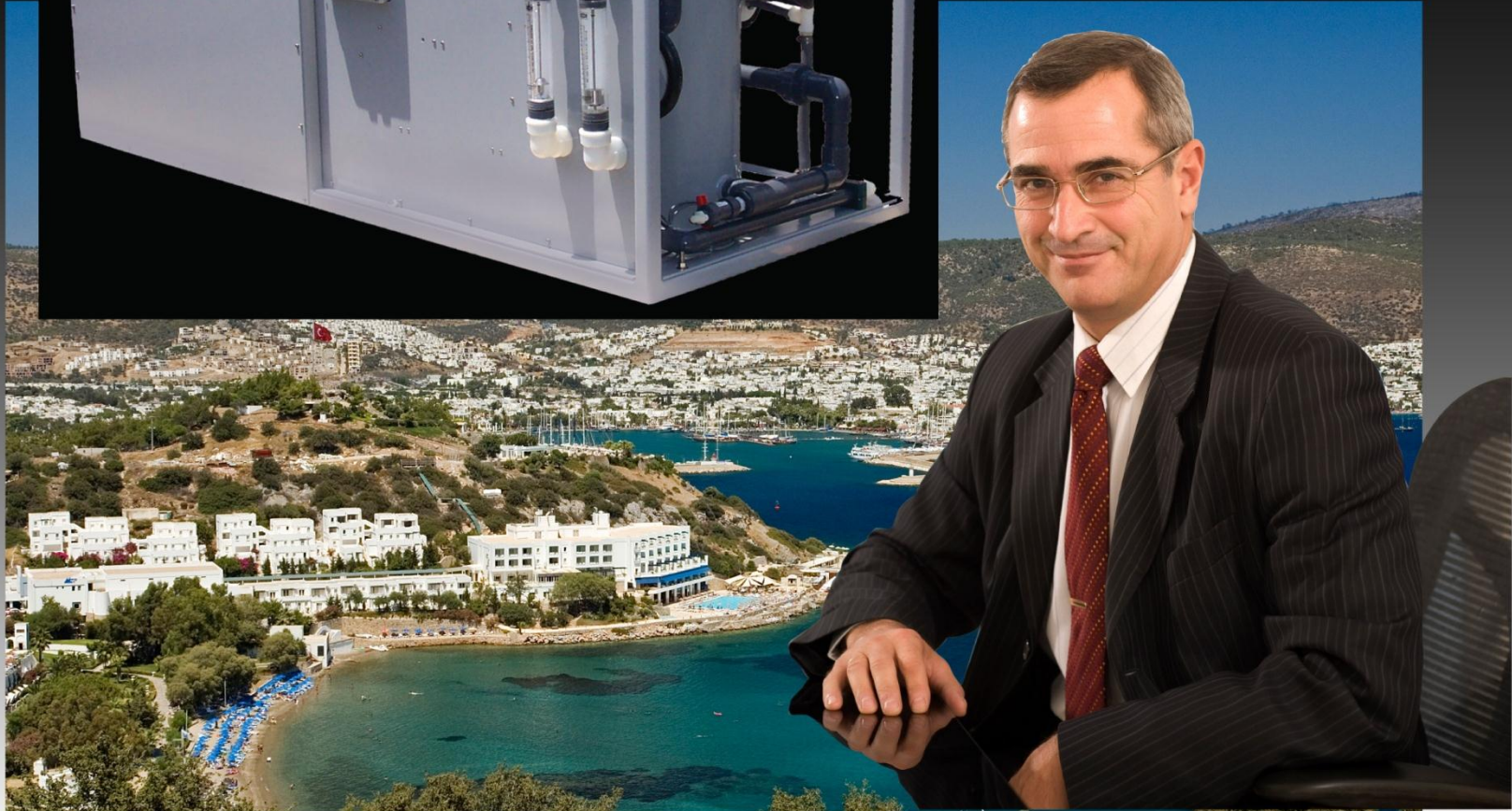
aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding

Village Marine
Commercial Water Desalination &
Purification Systems
3,000-93,000 GPD (11,356-352,043 LPD)



Parker Racor

ENGINEERING YOUR SUCCESS.



**Seaside hotels and resorts – managers, owners, contractors,
engineers, and technicians**

Seaside Hotels and Resorts

- Distributors
- Hotel Associations
- Managers
- Owners
- Contractors
- Engineers
- Service companies/technicians
- Bulletin number 7799



Pure Water Series

3,000-18,000 GPD (11,356-68,137 LPD)
For Commercial Applications and Seaside Properties

Standard Features:

- Monel mesh strainer and dual sediment prefilters.
- Maintenance-free Air/Oil separator allows operation while underway.
- 3 or 5 plunger titanium pump for low vibration and noise with unsurpassed corrosion resistance. Lifetime guarantee on pump head to original owner.
- Magnetic drive low pressure pump provides up to 10 psi of boost pressure to the filtration system. Never requires seal replacement.
- 316SS, glycerin filled pressure gauges.
- Freshwater flush system included. Optional automation of the flush system is available.
- Lifetime guaranteed FRP pressure vessels, to original owner.
- Adjustable 316 SS pressure regulating valve allows use in fresh, brackish or seawater.
- Easy to operate 316 SS high pressure bypass valve controls the operating mode from cleaning/ rinse to R.O. allows high pressure bypass for start-up and low pressure flushing without readjustment of regulating valve.
- Automatic diversion valve diverts water to discharge if water quality drops below acceptable standards.
- Digital water quality monitor displays purity of product water output. Also displays temperature and total hours for accurate service log.
- Cleaning valve for easy cleaning or sterilization of the system including membranes.

The Pure Water (PW) Series is designed to provide installation flexibility, superior performance, and extended service life in the most rugged conditions. Typically used in 24/7, continuous-duty applications, the PW Series is fully operational from an optional remote control.



Village Marine
PW-3000
Exposed Product



Village Marine
PW-3000-4000



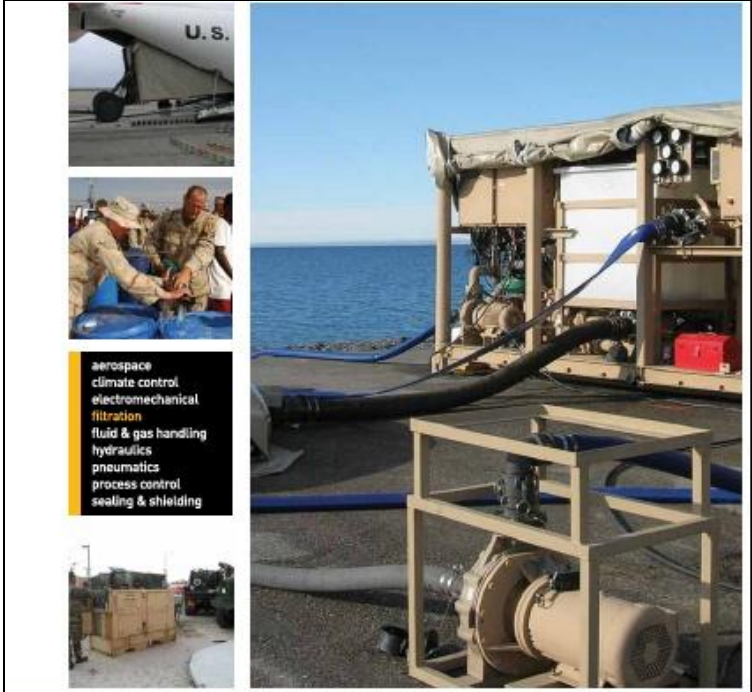
Village Marine
PW-3000



Disaster relief – governmental agencies and non-government organizations

Disaster Relief

- Distributors
- Rental yards
- Governmental agencies
- Non-government organizations
- National Guard
- OEM genset companies
- Bulletin number 7851



U. S.

aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding

Racor Village Marine Tec.
Disaster Relief Water Purification
Systems Overview

Parker Racor


ENGINEERING YOUR SUCCESS.



Militaries, military capable shipyards, government procurement offices, military supply companies – buyers, crew, and end users

Militaries, Military Capable Shipyards,

- Government procurement offices
- Military supply companies
- Buyers
- Crew and end users
- Bulletin number 7845



Village Marine Tec. Mil-Spec
Reverse Osmosis Desalination
Systems

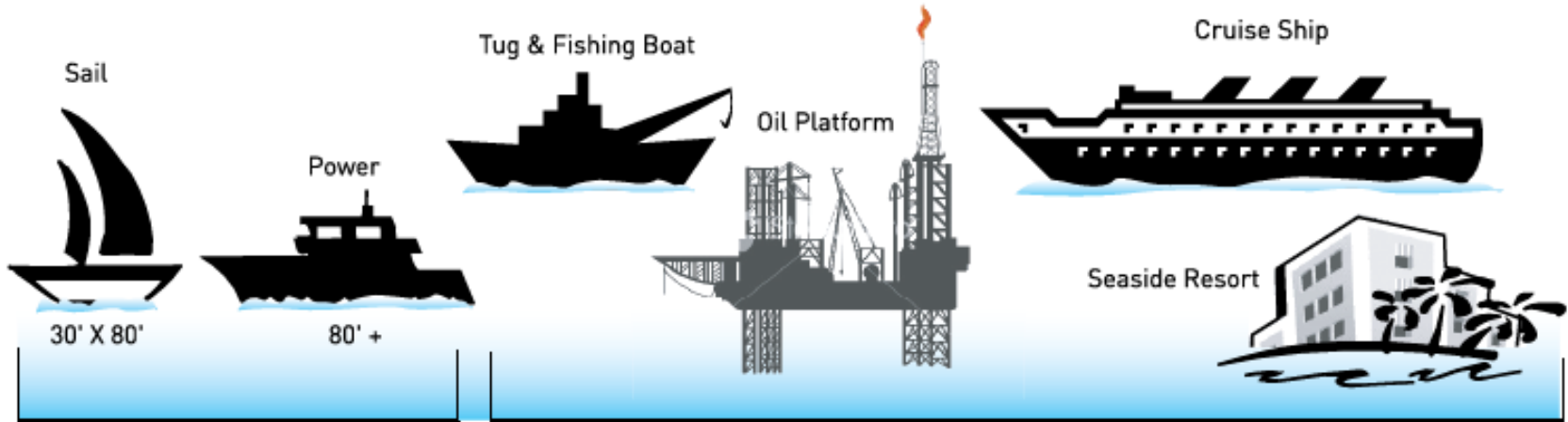
aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding

Parker Racor

ENGINEERING YOUR SUCCESS.

Market Coverage with Breath of Product

Simple  Complex
 Standard  Engineered



Pleasure

Commercial



LW SERIES
160-200 GPD



SPW SERIES
200-800 GPD



PW SERIES
200-2,000 GPD



PW VERTICAL SERIES
3,000-4,000 GPD



PW SERIES
3,000-18,000 GPD



SW SERIES
24,000-36,000 GPD



SW 93 SERIES
93,000 GPD



Small yachts (defined as 35 to 80 feet)

Large yachts (defined as above 80 feet)

Work boats



Ocean-going fishing boats

Cruise ships



Small oceanside hotels and resorts

Off-shore oil platforms



Emergency response

Energy production

United States Coast Guard



United States Navy

Foreign Navies

Market Segments

Problem/Challenge



The Problem

The world is not necessarily running out of water, it's just not always available where and when it's needed...

97% of the global water supply is salt water

3% is available as fresh water:

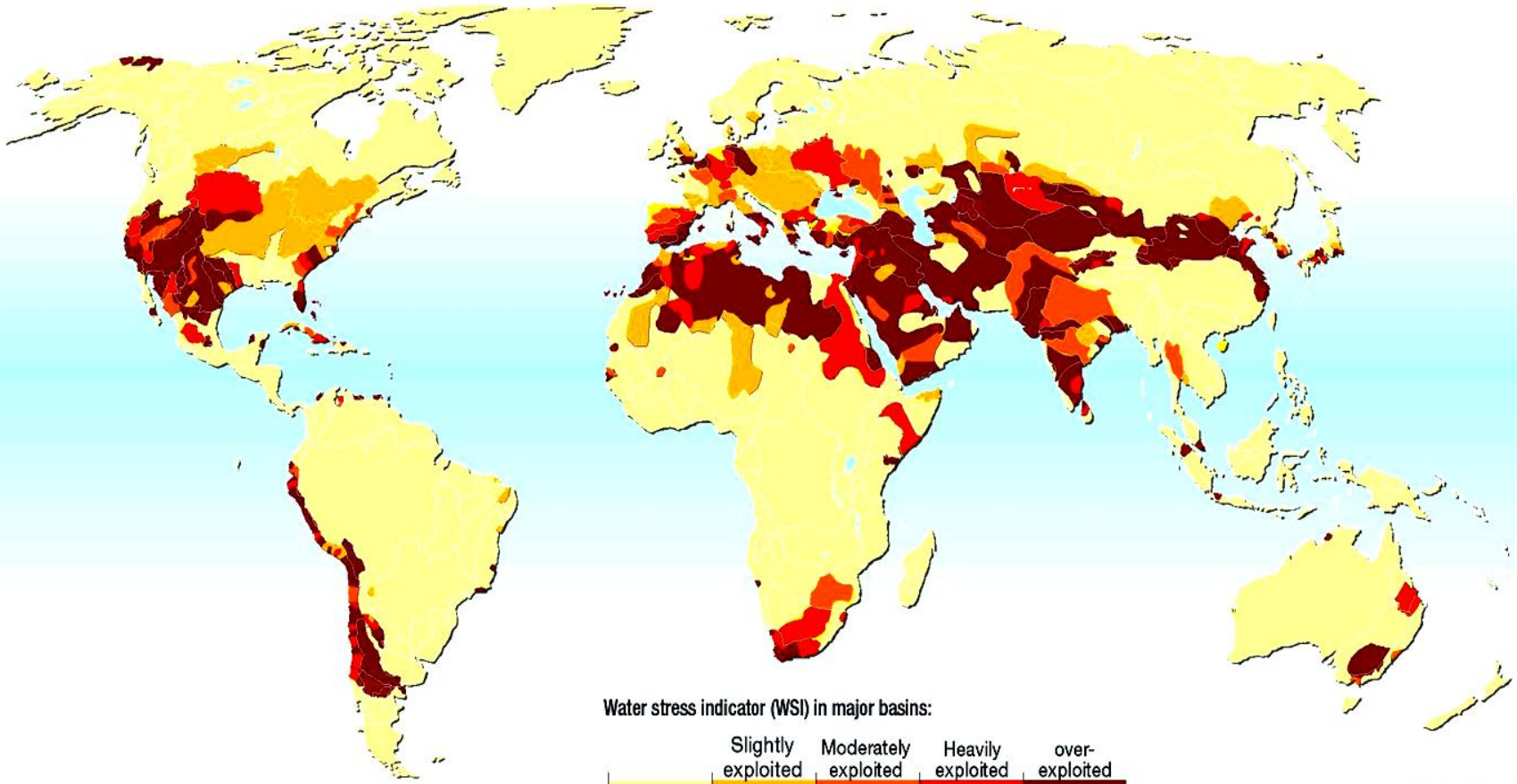
77% of the available fresh water is frozen

23% is below ground or impure surface water

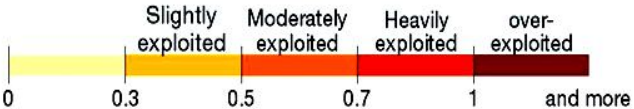
Over 3 billion people live in or near water stressed areas



Available Fresh Water is a Global Concern



Water stress indicator (WSI) in major basins:



Sources: Smakhtin, Revenga and Döll, 2004.

PHILIPPE REKACEWICZ
FEBRUARY 2002

The Problem!

Importance of purified water offshore

- The marine environment is even more hostile and unforgiving.
- Running out of fresh water offshore is not an option!
- The health and safety of pleasure, commercial, cruise, platform, global relief organizations, and military marine markets, all depend on the ability to provide a safe and plentiful source of fresh potable water.

Desalination Technologies – An Overview

Labor, Maintenance, and Environment Sensitive

Multi-stage Flash

MSF



Type of Water:
Seawater

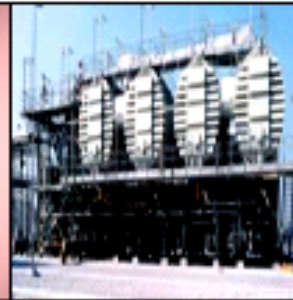
Recovery Rate:
25 – 30%

Capital Cost
\$ 3.5 – 4.5 per installed gallon per day

Desalinated Water Cost
\$ 0.7 – 1.0 per m³

Multi-Effect Distillation

MED



Type of Water:
Seawater

Recovery Rate:
25 – 30%

Capital Cost
\$ 5 – 6 per installed gallon per day

Desalinated Water Cost
\$ 0.8 – 1.5 per m³

Compact and Efficient

Reverse Osmosis

RO



Type of Water:
Seawater

Recovery Rate:
25 – 30%

Capital Cost
\$ 3.5 – 4.5 per installed gallon per day

Desalinated Water Cost
\$ 0.7 – 1.0 per m³

The Solution



The Solution!



VILLAGE MARINE TEC.

Fresh Water from the Sea



OffShore Marine Labs.



Fresh water for every vessel.

The Leader in MIL-SPEC Reverse Osmosis Desalination Systems



Design Engineering Standards

- ML-STD-901 (Shock)
- ML-STD-167 (Vibration)
- ML-STD-461 (EMI)

Quality Assurance

- ML-148208A
- T9074-AS-CIB-010/271
- Dye Prohibit
- Magnetic Particle
- Ultrasonic



6P100 Pump Side View



Navy Standard
12K R.O. Systems



EUMP - Gen II



Included
Standard

WMPW 400-2000 GPD
Semi-Modular System

VMT Reverse Osmosis Watermaker

WHAT IS IT?

System Circuit



System Circuit

REVERSE OSMOSIS

