



Preventive & corrective solutions for a clean marine environment.



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Benefits in the event of an accident on a JLMD system® basis

Financial savings and time savings in operation

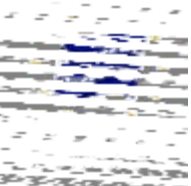
We have developed a study to determine exactly how much time and money would have been saved on 7 past shipping accidents had the ships been equipped with Fast Oil Recovery systems using SMIT, CEDRE, and O.C.S. as our sources

Scenarios	Depth (m)	Fuel Type	Wreck position		
			Upright	Side	Flipped
Prestige (North Atlantic, 2002)	1500	HFO	×		
Erika (North Atlantic, 1999)	200	HFO	×		
Ievoli Sun (English Channel, 2000)	200	HFO			×
Tricolor (English Channel, 2002)	50	HFO		×	
Peter Sif (North Atlantic, 1979)	50	HFO		×	
Selendang Ayu (North Pacific, 2004)	Stranded	HFO	×		
Exxon Valdez (North Pacific, 1989)	Stranded	Crude Oil	×		

Partners in Study

CEDRE (Centre of Documentation, Research and Experimentation on Accidental Water Pollution)

→ Analysis Input = Detailed documents on casualties and response plans.



SMIT Salvage

→ Analysis Input = Operational feedbacks based on field experiences.



O.C.S. (Offshore Consulting & Supervision)

→ Analysis Input = Deepwater expertise, operational feedbacks based on field experiences



Benefits in the event of an accident

Financial savings and time savings in operation

Study Results

Accidents	Actual operation time in days	Estimated operation time	Time savings
Prestige	352	225 days	36 %
Erika	187	103	45 %
Ievoli Sun	43	36	16 %
Tricolor	28	26	8 %
Peter Sif	37	28	24 %
Selendang Ayu	46	37	20 %
Exxon Valdez	11	9	19 %

Average
time
savings:
25%

Accidents	Estimated operational cost savings (USD)	Estimated oil clean-up cost savings (USD)	Total (USD)
Prestige	26 700 000	2 900 000	29 600 000
Erika	17 500 000	2 000 000	19 500 000
Ievoli Sun	1 400 000	0	1 400 000
Tricolor	110 000	220 000	330 000
Peter Sif	460 000	0	460 000
Selendang Ayu	460 000	0	460 000
Exxon Valdez	110 000	0	110 000

Average
financial
savings:
\$7,500,000

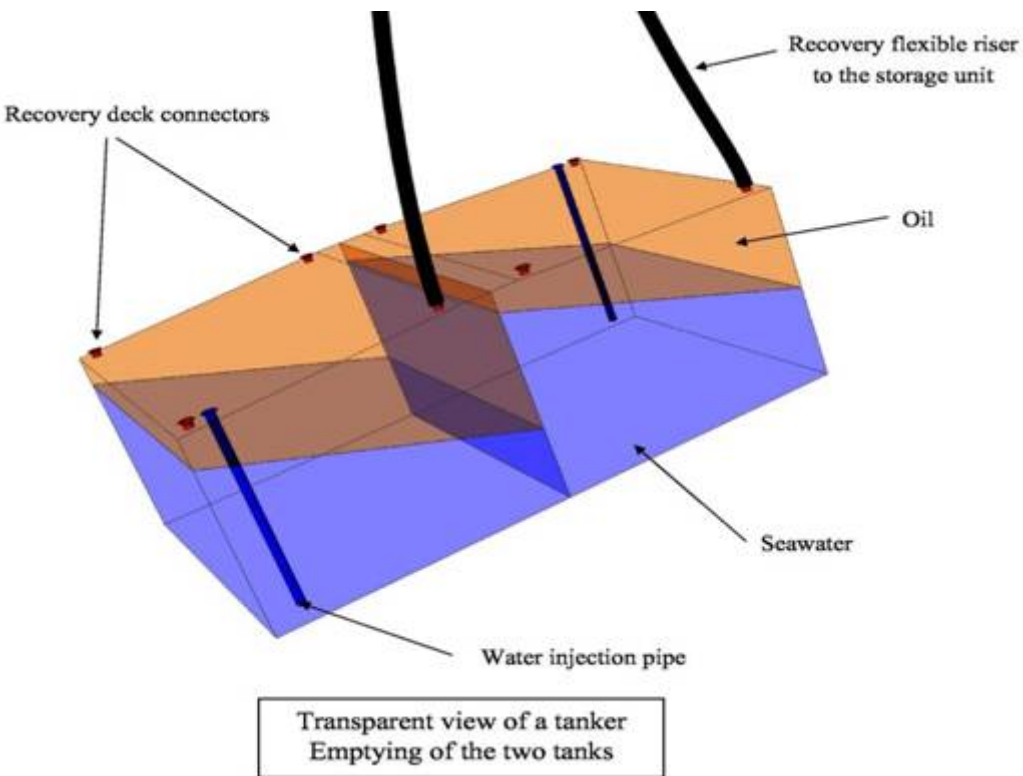
Passive safety, efficient and ingenious solutions :

Principle of Fast Oil Recovery systems

An onboard pre-installed system which allows a quick safe access to the tanks in case of maritime accident to recover the pollutants.

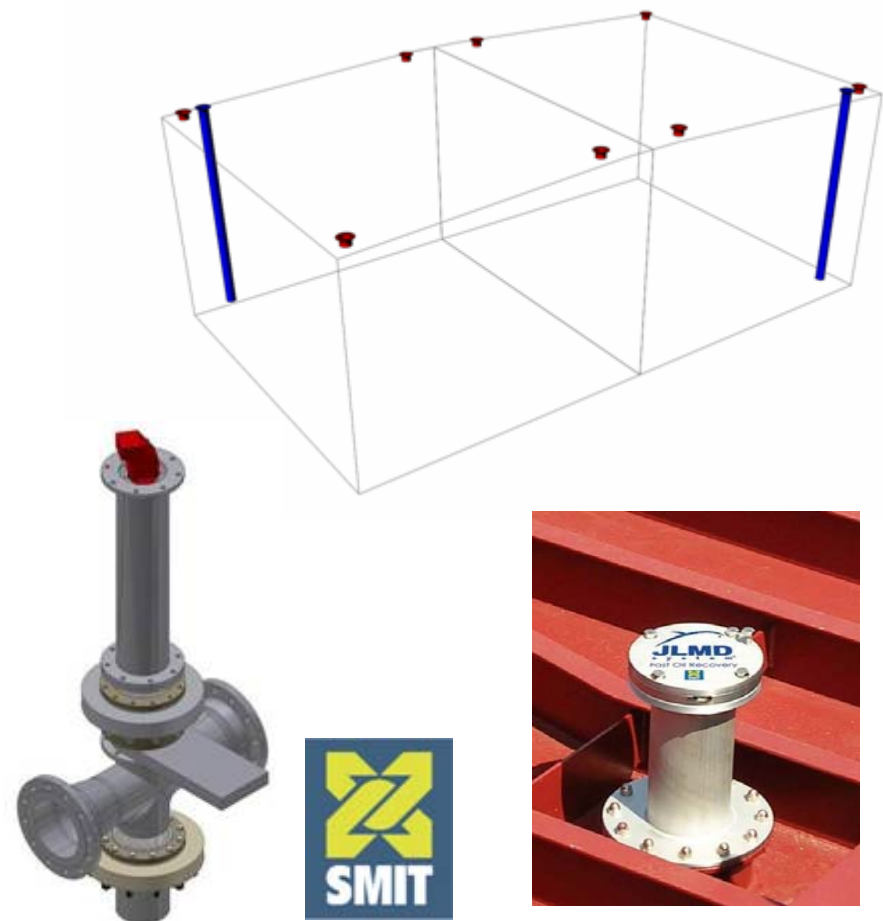
[JLMD Video Link](http://www.jlmdsystem.com/multimedia/multimedia_en.php?cat=videosen)

http://www.jlmdsystem.com/multimedia/multimedia_en.php?cat=videosen



Technical Offer: Typical Layout

Connecting tool made for safe, fast oil recovery which is compatible with all salvage companies



Benefits in the event of an accident

Consequences from an accident:

- *The goodwill of the company is tackled*
- Increase of P&I premiums
- Customers reactions
- Investors reactions
- Media reactions
- Prosecutions

Examples:

- A lot of company names (family name sometimes) have been damaged for ever
- TOTAL spent 200M€ to rebuild its image after the Erika
- BP lost 37% in share value in one day due to an ecological incident
- Billions of \$ pending for the Erika's

Public and legal determining factors: Emotional context according to multi stakes:

- Political
- Economical
- Social
- Ecological
- Technical
- Legal



The best way to manage these factors is to prove an:

Exceeding Level of Preparation

A Ship's Level of Preparation is:

Crew training
Emergency Response plan as OPA 90
Passive safety devices as FOR systems

Amidst a developing market of security

A new segment of the market:

- Created by the demand of charterers and public opinion sensitive to shipowners' responsible attitude
- Complementing the regulation "Revised MARPOL Annex I includes requirements for the protected location of the fuel tanks capacity of 600m³ and above".

Proactive Safety

- Double Hull
- Radars to prevent collide

Manage

risks by preventing
the accident

Passive Safety Device

- Fast Oil Recovery systems
- DO PV Valves

Mitigate

the consequences
of the accident

Crisis Management

- Buoys
- Skimmers
- Dispersants...

Deal with

the consequences
of the accident

Segment of the Passive Safety market:

- **FOR systems** as a pre-installation device which assures safe oil recovery in the event of an accident



- **Anti leaking systems:** with a self closing valve in the event of an accident to assure no oil leakage



Client's testimonials



Fernand BOZZONI
CEO
SOCATRA

"Safe operation and environmental protection are the fundamental principles of SOCATRA management.

SOCATRA has developed its own safety management system and was awarded the ISO 9002 certification in 1994 by BVQI.

Since the company's vessels operate world-wide, a thorough verification follow-through system has been developed in order to be certain that its ships comply with local, national and international regulations as well as maritime industry standards. Our policy is to achieve, every day, a higher and broader commitment to safety and environmental protection, always searching for improvement.

Therefore, as soon as we discovered the JLMD system®, it seemed obvious that it fully belonged to our strategy regarding environmental protection.

A shipowner is an industrialist and as such deals every day with risk management. In order to meet both our clients' and our own requirements and our clients', we are looking forward to eliminate, or if not to diminish, the risks inherent in transportation. For this, all good prevention system should be simple, efficient, functional, easy to install and of reasonable cost. The JLMD system® meets all these qualities not adding any specific maintenance constraints.

The JLMD system® is for us a real technical progress, especially because of its easy installation, and its efficiency. Its cost is more than reasonable compared to all its advantages. We are very satisfied to have equipped our last vessels with the JLMD system®."



Prestigious partners



INTERTANKO
The International Association of Independent Tanker Owners
FOR SAFE TRANSPORT, CLEANER SEAS AND FREE COMPETITION



Transport



SALVAGE



**BUREAU
VERITAS**

