

FLOAT Incorporated

B1 Project Shipping and Waves



MARIBE Overview

- ◆ MARIBE is a Horizon2020 project that aims to unlock the potential of multi-use of space in the offshore economy.
- ◆ This forms part of a long-term Blue Growth strategy to support sustainable growth in the marine and maritime sectors as a whole.
- ◆ Led by a consortium of 11 partners. Coordinated by University College Cork with partners from the UK, Netherlands, Italy, Belgium, Spain and Malta.



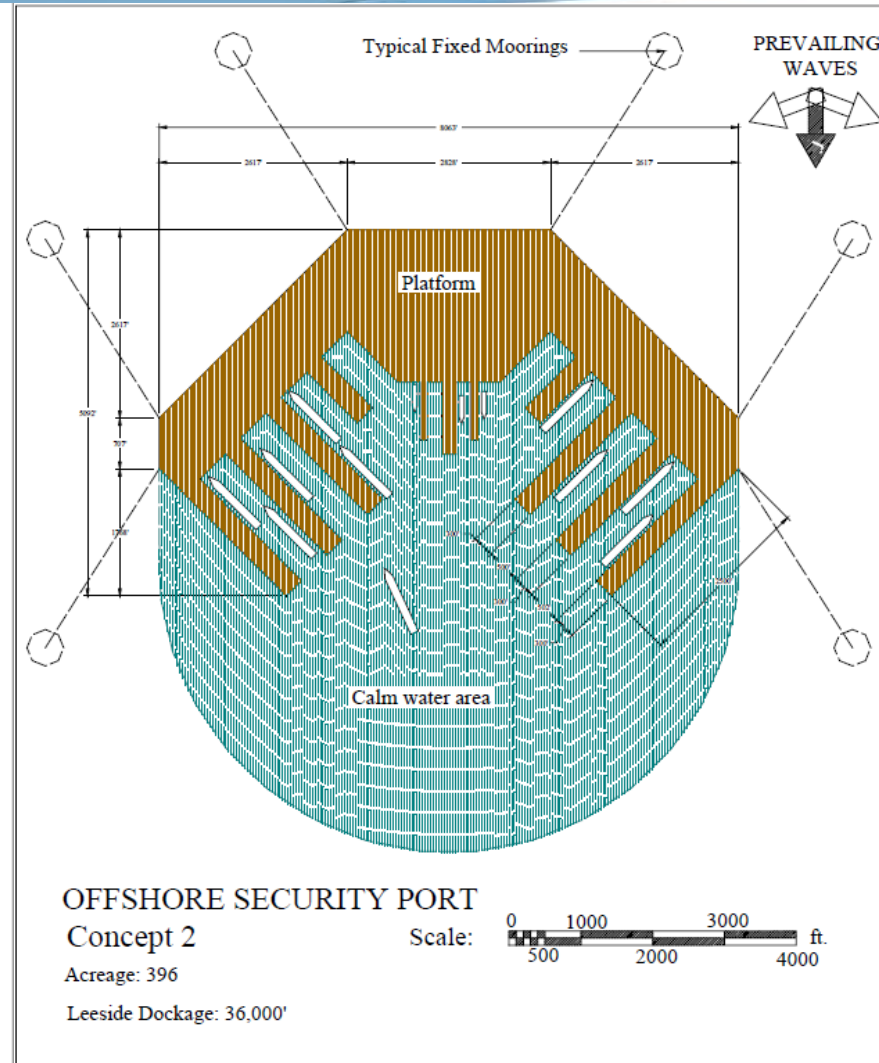
Implementing The *Beyond the Horizon* Strategy

A Systems Approach to
Seaport Security

By: Cliff McMillan
Donald Innis
Dr. Howard Blood
Joseph Leary
Dr. Neal Brown

Float Incorporated
1660 Hotel Circle North Suite 725
San Diego, California 92108
619-299-9888
619-299-5307 (fax)
www.floatinc.com

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- Work accomplished from various perspectives:

- Technical

- Pneumatically Stabilized Platform (PSP) tank testing - USA**

- Defense Advanced Research Project Agency (DARPA)

- Confirmation of PSP marine technology**

- (1995 – 1996)

- Office of Naval Research (ONR)

- Validation of PSP marine technology characteristics**

- (1997 – 1998)

- Float Inc. PSP marine technology chosen for inclusion in a national R&D program: USA – Department of Defense “Mobile Offshore Base” program

- Rho-Cee Wave Energy Converter**

- BOEM – Ohmsett tank testing facility (Dec2009)

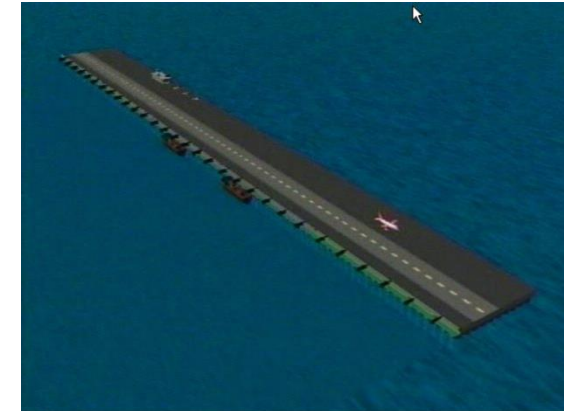
- Confirmation of Rho-Cee WEC 1/6th scale tank testing results indicated wave power capture rate between 50% to 94%

- Financial

- 1,3Million Euros funding grants:

- Defense Advanced Research Project Agency (DARPA) USA

- Office of Naval Research (ONR) USA



- Risk

- Applications of IMO, SOLAS, MARPOL, Lloyd’s Register requirements will be met prior to being classified as operational.

- Business plan

- Float Inc. Business Plan dated 2011 with projection of 5-years



- ◆ **Floating multi-purpose platform (MUP) composition:**
 - ◆ **Pneumatically Stabilized Platform (PSP)** which permits the construction of stable, floating, reinforced concrete foundations of unlimited size for any use on any body of water deep enough to float them.
 - ◆ **Rho-Cee Wave Energy Converter (ρC)** (shipping + waves) a broadband, impedance-matched wave energy conversion structure that efficiently transforms the hydrodynamic power of waves at sea into usable electric energy.
 - ◆ **Potential Energy Storage (PES)** system permits the storage of captured energy in the form of compressed air within the confines of the PSP's cylinder interstitial volumes.
 - ◆ **LNG terminal** provides MUP baseload electricity, potable water, regasification for MUP use.

Float Inc. Security Port Overview

- ◆ **The Float Inc. Security Port - shipping terminal configuration – total surface approximately 135 hectares**
 - ◆ 8 berths for Ultra-Large Container Ship (ULCS) vessels
 - ◆ 8 berths for Short Sea Shipping (SSS) vessels
 - ◆ 4 service berths
 - ◆ Automated TEU handling equipment for 100% screening and container weighing + automated guided vehicles for TEU moves
 - ◆ Overall annual TEU (twenty-foot equivalent units) throughput
 - ◆ Minimum capacity of 17.5+Million TEU with maximum capacity of 70+Million TEUs per year without need to expand the Float Inc. Security Port structure.
 - ◆ Strategically positioned Float Inc. Security Port offshore from Mizen Head, Ireland:
 - ◆ Elimination of ULCS vessels voyage time via the English Channel between 8 to 12 days – costly voyage reductions for shipping companies.
 - ◆ Necessitates re-activation of an estimated 1,100 SSS vessels – currently idle in the EU.
 - ◆ NB: SSS vessels could be modified/rebuilt to utilize LNG fuel – reducing CO² output by 30%.
 - ◆ Revives seafarer employment for the EU & member states concerned –
 - ◆ NB: One SSS vessel requires 10-seafarers as crew, an estimated total of 10,000+ seafarers.
 - ◆ Direct Short Sea Shipping vessels deliver containers to destined EU member state – thus reducing costly, time consuming, and CO² pollution from across EU road transshipments.

- ◆ **The Rho-Cee Wave Energy Converters**

- ◆ Renewable energy generated by the Rho-Cee WEC systems to be utilized on-board the Float Inc. Security Port thus reducing the consumption of LNG on-board.
- ◆ Estimated 240,665MWh/year – overall 54.95MW rating.
- ◆ If not required for immediate use, electricity can be converted to compressed air and stored within the interstitial spaces of the PSP - estimated 1,349MWh capacity within interstitial spaces of the PSP.

- ◆ EU Motorways of the Seas
 - ◆ Atlantic Arc & Float Inc. Security Port
 - ◆ Anchored offshore from Mizen Head, Ireland



- ◆ Impact of working with MARIBE:
 - ◆ Organized Float Inc. input to correspond to the EU/EC requirements.
 - ◆ Verified and discussed Float Inc. proposal contents to ascertain applicable and short responses.
 - ◆ Compiled final presentation to correspond to Advisory panel requirements to avoid automatic refusal.

- ◆ Benefit gained from the Advisory panel session and the impact it had on the project:
 - ◆ I totally appreciated the “round table” reactions and questions, as this enabled me to orally respond & expand upon certain areas that may have not been clear to the Advisory panel.
 - ◆ The Advisory panel members posed pointed and highly pertinent questions which enabled an overall positive exchange of information.
 - ◆ What may have been initially thought to be a “simple presentation” transformed into excellent & curious questioning which reflected the Advisory panels “curiosity” to comprehend better – highly appreciated.

◆ B2B meetings:

- ◆ Are you pursuing any opportunities for collaboration as a result of the meetings?
 - ◆ Yes, but one must be sufficiently patient to obtain “entrance” into the realm concerned, as the Float Inc. proposal has been perceived as somewhat of a “threat” to land-based ports.
 - ◆ If the event (with appropriate revisions) was repeated, would you take part again?
 - ◆ Yes
- ◆ Any “first event” exposure readies one for the next – knowing that having been through the first, you will necessarily be better prepared for the second.

◆ Any other comments?

- ◆ Yes, I wish to thank the entire “crew” of the MARIBE Horizon 2020 project for their patience, comprehension, and support provided Float Inc. & myself during the entire preparation period.