



POWER DOCKS

PowerDocks LLC
The future of Aquatic Charging

www.power-docks.com

E-Boat = Need Power on our Mooring...!!



Kelli Ann & Anthony Baro

Solution = Sustainable Power Mooring



Marine Electric Vehicle Markets

on-water / underwater / inland waterways / e-workboats / offshore / military-defense/ other, smaller market subsectors



MARKET SIZE = 2011 \$2.6 Billion → 2023 \$6.3 Billion (1)

(1) <http://www.idtechex.com/research/articles/global-marine-electric-vehicle-market-to-reach-6-3bn-in-2023-00005445.asp>

Marine Electric Propulsion OEMs



GO ELECTRIC
Powerful Clean Silent
Powering boats up to 85 feet

Electric Outboard Motors

6HP to 200HP
Direct Drive Sterndrives

Complete, Turn-key Electric Marine Propulsion & Hybrid Diesel-Electric Propulsion Systems

getlithium.com
Pinnacle Innovations



ABB / Torqueedo / Ocean Volt / ELCO / AQUAMOT / + Others

Solution Offerings

PowerDocks develops **Powered Docking Platforms** designed and produced to serve the needs of the **Aquatic Market Space**



Marinas



Moorings

> \$6B U.S. Marina & Boating Opportunity

Marinas: 11.5K (US) (1); 875K Slips; 85% Occupancy Rate (2); **131.25Ku U.S.** @ \$5K-\$10K/Unit => **\$2B**

Moorings: (US 2015) (3) > 11M; 5% E-Boats = **550Ku** U.S. @ \$5K-\$10K/Unit => **\$4B**



5 Mo. Season~\$6,750



5 Mo. Season~\$175

Marina & Boating Competitive Market Technologies

Floating Sustainable “Micro-Grid” Platforms



Integrated Autonomous, Renewables, Energy Storage, and Power Distribution (Dockside & Wireless): Wave, Photovoltaics, Wind, and Tidal Power Generation Capabilities

Floating Power Generation Sources

- Fossil Fuel Power (**contaminant**)
- Diesel-Electric Power (**contaminant**)

(None Integrated Renewable Generation, Energy Storage, Dockside / Wireless Power Distribution Capability)

Company

- **R.I. - April 2016 (Chris Fagan & Anthony Baro)**
 - ✓ **Over 30 Years Combined Professional Experience** - Sustainable Design-Build, Renewable Energy Developments, Design/Engineering, Management, Commercial, Industrial, Marine and Defense Markets
- **4 Utility Patents Pending + 3 New Innovations in Pipeline :**
 - ✓ Floating Solar Energy Platform For Marine Environments US 62/308,554
 - ✓ Floating Solar Energy Platform For AUVs, USVs, ASVs in Marine Env't. US 62/328,092
 - ✓ Solar Energy Inflatable Life Raft US 62/343,109
 - ✓ Solar Energy Inflatable Raft US 62/343,270
- **Operations in Newport R.I. and Fall River MA.**

Business Traction

- ✓ **Accepted** to UMASS Center for Innovation & Entrepreneurship VTC, MA – 9/2016
- ✓ **Accepted** to join Defense Industry Science & Technology Showcase, TX – 11/2016
- ✓ **Won** Innovation Grant Voucher from RI Commerce Corporation – 12/2016
- ✓ **Won** entry to join the Advanced Naval Technology Exercise 2017, RI – 12/2016
- ✓ **Teamed** with BCube Analytics to Develop Own Secured Communications Network to Process and Transmit Data from Unmanned Robotic Vehicles Operating Off PowerDocks Floating Platforms – 1/2017
- ✓ **Teamed** with Truston Technologies, Wibotics, HyPower, Oceanvolt, UMASS CIE, and Unmanned System Developments to collaborate on **Development of its Autonomous Marine Micro-Grid Platform** for Advanced Naval Technology Exercise to be held at NUWC in Newport R.I. August 2017
- ✓ **Nominee** of 2017 SBANE Innovation Product Award – 5/17
- ✓ **Launched** “Blue Isles™” 1st Unmanned Floating Micro Grid in Newport, RI – 6/17

Core Team

POWER DOCKS



Anthony Baro
B.S.M.E / M.B.A



Chris Fagan
B.A / M.U.P



Charles Thangaraj
B.S.E.E / P.H.D.



Mike Jaques
Field OPS Mgr.

Strategic Advisors



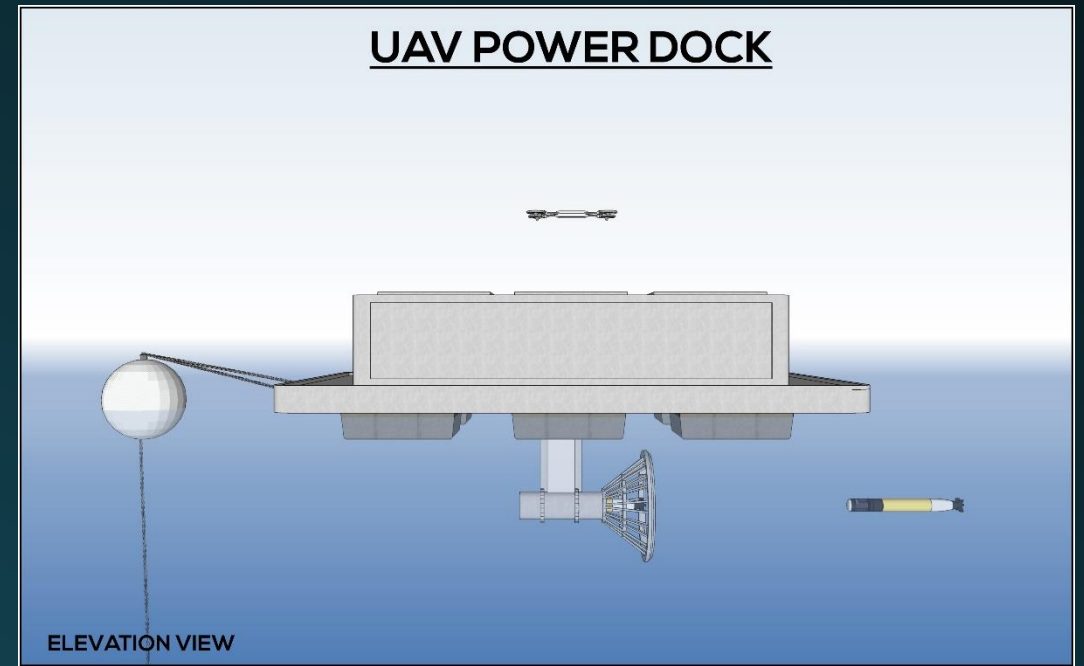
Adjacent Market Opportunities

Aquaculture > \$10M U.S.



577 Farms (U.S. 1992) ⁽⁵⁾

Oceanographic / Defense > \$10M



6Ku (2011-20 Worldwide) ⁽⁴⁾

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Back Up Slides

Marine Electric Vehicle Markets

On-water electric vehicles for inland waterways and the sea



MARKET SIZE = 2011 \$2.6 Billion → 2023 \$6.3 Billion (1)

The rapidly growing \$2.6 billion market for marine electric vehicles (EVs) will reach \$6.3 billion in 2023. It is unusually varied with average unit prices increasing as larger craft are electrified to improve cost over life, performance, green credentials and for other reasons. The market includes on-water and underwater electric vehicles for inland waterways and the sea. Military electric craft are the largest market sector by value today but e-workboats and other, smaller market subsectors will increase their share of market by value through the coming decade. Read more at: <http://www.idtechex.com/research/articles/global-marine-electric-vehicle-market-to-reach-6-3bn-in-2023-00005445.asp> (1)

> \$6B U.S. Aquatic Space Opportunity

- **Marinas:** 11.5K (US)⁽¹⁾; 875K Slips⁽²⁾; Average 85% Occupancy Rate⁽²⁾
 - **131.25Ku U.S.** @ \$5K-\$10K/Unit > \$1.3B Market Opportunity (Slip PowerDocks)
- **Pleasure / Yachting:** (US 2015)⁽³⁾ > 11M; 5% E-Boats Assumed = 550Ku (U.S. only)
 - **5% Share** @ ~ \$5K-\$10K/Unit > \$4.2B Market Opportunity (Mooring PowerDocks)
- **Oceanographic Instrumentation & Defense:** 6Ku (2011-20 Worldwide)⁽⁴⁾
 - **5% Share** @ \$20K-\$40K/Unit > \$10M Market Opportunity (AUV PowerDocks)
- **Aquaculture:** 577 Farms (U.S. 1992)⁽⁵⁾
 - **5% Share** @ 20K-40K/Unit > \$10M Market Opportunity (PowerDocks)
- **Other Opportunities:**
 - Powered Life Raft (PowerDocks IP Pending)
 - Water Quality/Remediation i.e. EPA, US Clean Water Act, NOAA
 - Aquatic Unmanned Aerial Drone Services
 - Floating Residential / Hospitality

(1) Richard Graves & Associates <http://www.slideshare.net/rvgraves/marina-business-info-for-investors-sellers-buyers> ; (2) NMMA Facts & Figures http://www.newenglandboatshow.com/assets/cabinets/cabinet61/NMMA_Industry_Fact_Sheet.pdf ; (3) Growboating.org <https://www.growboating.org/toolkit/facts-and-figures.aspx>; (4) Subsea <http://dotsubsea.com/auv-market/> ; (5) USDA:APHIS:VS https://www.aphis.usda.gov/animal_health/nahms/aquaculture/downloads/AquacultureOverview95.pdf

Business Model

Customer Profiles: B2B, B2B2C, B2C- Web Commerce

Internal: Design, Engineering, Sales, Marketing, Services, Operations

External Partners: Local Manufacturing, Suppliers, Service Providers

Customer Marketing Acquisition Strategy

Media: Technical Articles, Media Ads, Press Releases

Industry: Exhibits / SME Conference Speaking Engagements

Internal Business Development: B2B, B2 Government, B2C-Web

External Partners: Leverage Manufacturing, Suppliers, Service Providers

Business Traction

- ✓ Accepted to pitch at the Grand Maritime Innovation Conference, MA – 4/2016
- ✓ Accepted to UMASS Center for Innovation & Entrepreneurship VTC, MA – 9/2016
- ✓ Accepted to join Defense Industry Science & Technology Showcase, TX – 11/2016
- ✓ Won Innovation Grant Voucher from RI Commerce Corporation – 12/2016
- ✓ Won entry to join the Advanced Naval Technology Exercise 2017, RI – 12/2016
- ✓ Selected Participant of MassChallenge “Bridge To R.I.” Bootcamp – 12/2016
- ✓ Honorable Mention in “Go Beyond Design Challenge International Competition – 1/17
- ✓ **Teamed** with BCube Analytics to Develop Own Secured Communications Network to Process and Transmit Data from Unmanned Robotic Vehicles Operating Off PowerDocks Floating Platforms – 1/2017
- ✓ Selected to Present Paper at International Marina & Boatyard Conference – 1/17
- ✓ **Teamed** with Truston Technologies, Wibotics, HyPower, Oceanvolt, UMASS CIE, Unmanned System Developments, RI Air Drone Services, and Aspin Kemp & Associates to collaborate on **Development of its Autonomous Marine Micro-Grid Platform** for Advanced Naval Technology Exercise to be held at NUWC in Newport R.I. August 2017

Marine Electric Vehicle Markets

On-water electric vehicle charging for inland waterways and littoral coast line

- ✓ Powered Moorings for single and multiple number of electric propulsion vessels
- ✓ Powered Entertainment Docks
- ✓ Powered Pleasure Destination Docks
- ✓ Custom Design Applications

Market Needs	End Customer Benefits
Higher Safety	No Combustible Fuel-Oil-Fumes Safety Hazards
Electric Propulsion Recharge	Convenient Electric Recharge Access (Docks, Marinas, Moorings)
Autonomous Mooring Recharge	Autonomous, Mobile Recharge Access
Lower Propulsion Operating Cost	No Oil-Fuel-Filter Services, Zero Cost Renewable Energy
Lower Environmental Liability Risk	No Oil, Fuel Environmental Spillage Liability

Marine Electric Vehicle Markets

Autonomous Underwater Oceanographic / Military Electric Vehicles

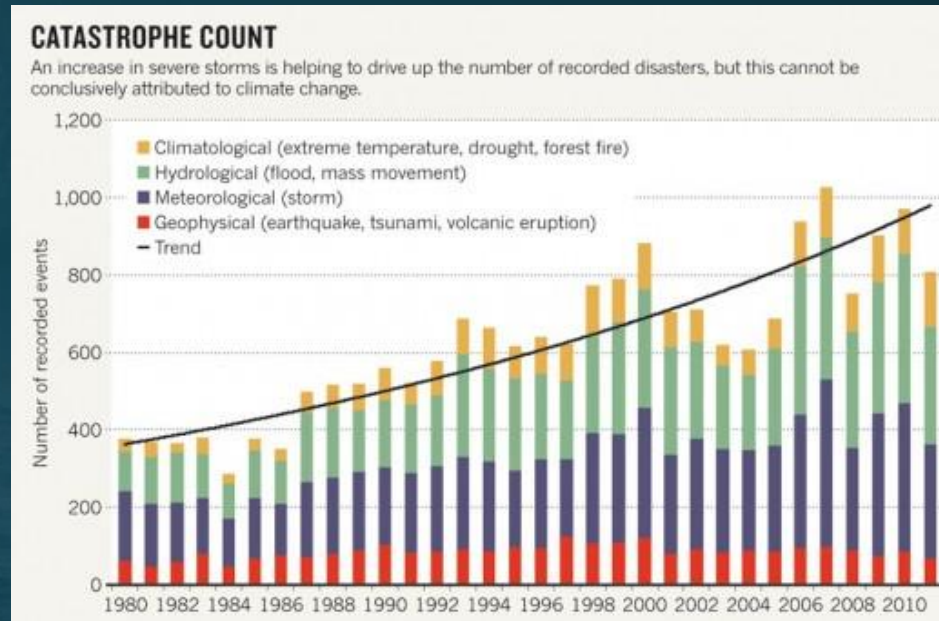
- ✓ Powered Moorings for AUVs electric charging
- ✓ Powered Onsite Security and Telecommunications Data Transmission Capability
- ✓ Electric Generation, Energy Storage, Power Distribution and Charging Capability
- ✓ Custom Design Applications

Market Needs	End Customer Benefits
Extended Mission Duration	Expanded Mission Capability
Electric Propulsion Recharge	Convenient Electric Recharge Access (Autonomous Moorings)
Autonomous Mooring Recharge	Autonomous, Mobile Recharge Access
Lower Mission Operating Cost	Reduced Onsite Manned Vessel Trips / Support
Lower Environmental Liability Risk	No Oil, Fuel Environmental Spillage Liability

Natural Disaster Emergency / Power Resiliency Markets



Natural Disasters Frequency = Increasing Trend

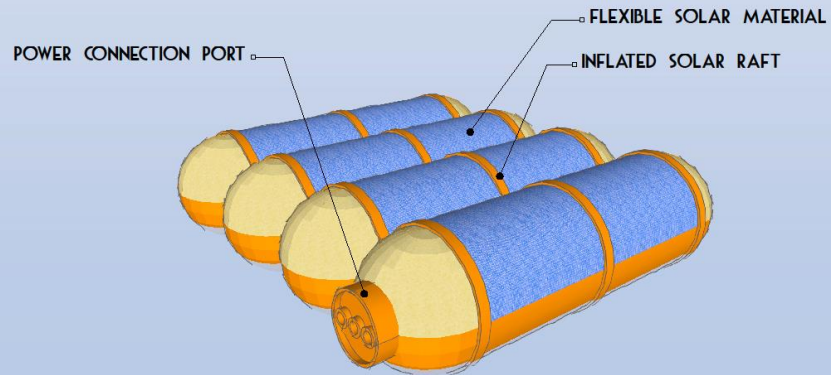


By: Munich Re Insurance Co.

Natural Disaster Emergency, Power Resiliency, and Life Safety Markets

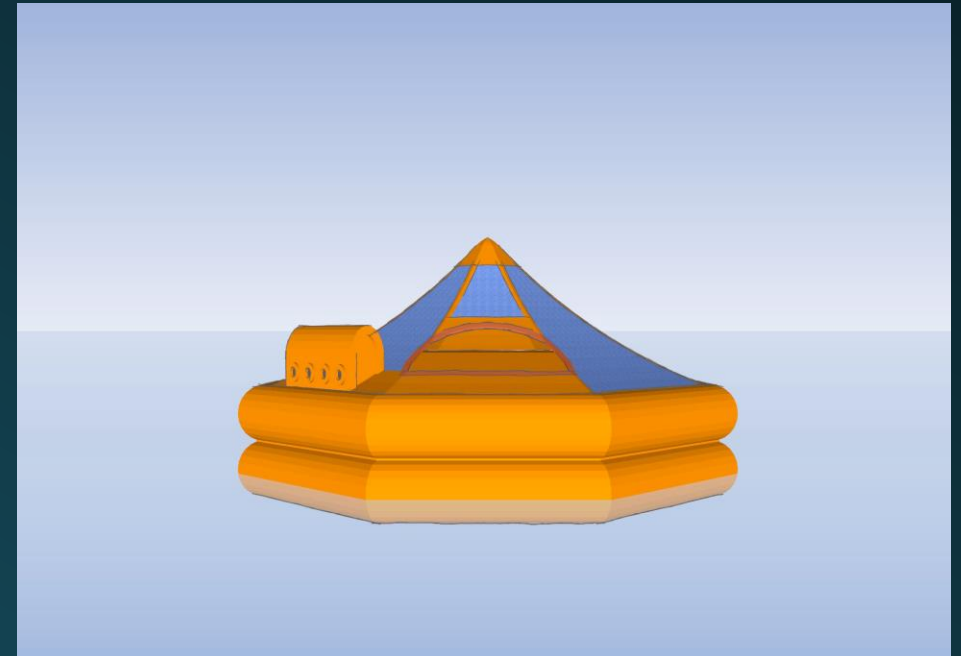


POWER DOCK - POWER RAFT



AXON VIEW #B

POWER DOCKS



Natural Disaster Emergency, Power Resiliency, and Life Safety Markets

POWER DOCKS

Autonomous Underwater Oceanographic / Military Electric Vehicles

- ✓ Powered Moorings for AUVs electric charging
- ✓ Powered Onsite Security and Telecommunications Data Transmission Capability
- ✓ Electric Generation, Energy Storage, Power Distribution and Charging Capability
- ✓ Custom Design Applications

Market Needs	End Customer Benefits
Extended Mission Duration	Expanded Mission Capability
Remote Data Telecommunication	Onsite Real Time Data
Autonomous Electric Recharge	Autonomous, Mobile Recharge Access
Lower Mission Operating Cost	Reduced Onsite Manned Vessel Trips / Support
Lower Environmental Liability Risk	No Oil, Fuel Environmental Spillage Liability