

# EGASC Technology + ChemLed Technologies

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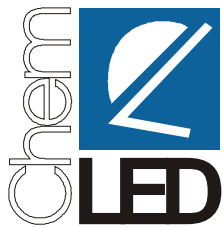
- **EGASC** Technology is being developed through ChemLedTechnologies ([www.chemled-technologies.com](http://www.chemled-technologies.com))
- For over 10 years, ChemLed Technologies has offered detection systems and semiconductor based light sources, as well as a variety of design, engineering, and other consulting services in interdisciplinary R&D



# What is **EGASC**?

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- **Energy Generating Autonomous Sailing Craft (EGASC)** – patent pending, is an innovative, self-navigating, unattended sailing drone.
- **EGASC**'s primary technology (currently under development) will act to remediate the significant and well-documented environmental & economic impact caused by contamination of coastal or inland waters by harmful algal bloom (HAB) or bacteria.
- **EGASC** operates using a unique ability to move to hypoxic or near hypoxic areas and initiate preventive actions, understanding that prevention is less costly than remediation.
- **EGASC** is additionally capable of generating a few kW of power from typical inland or coastal winds.



# Why EGASC?

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- Need recognized and commercial potential noted to address a number of different markets/applications
  - HAB remediation
  - Operation of bio-sensors
  - Asymmetric countermeasures in Naval operations
  - Water desalination
  - Energy generation
  - Remote “cloud” server provision
  - Advertising potential

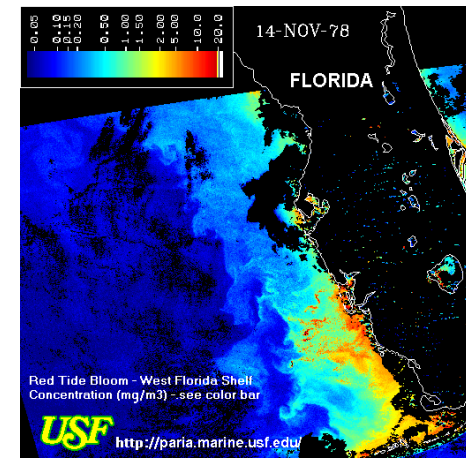


# Primary Application of EGASC

- Addressing the environmental & economic cost of HAB is the initial developmental track for EGASC technology.
- Further, any place where long term measurements of chemical or biological agents in coastal or inland waters takes place, **EGASC** technology and commercial opportunities will emerge.

*“...Globally, the problem of harmful algal blooms has expanded considerably over the last several decades. Nearly every coastal country is now affected, often by multiple toxic or harmful algal species that threaten wild and farmed fisheries, coastal ecosystems, and recreational activities. The task of managing these diverse resources is a challenging one; made all the more difficult by the diversity of the potential impacts ...”*

*D.M. Anderson at all Monitoring and Management Strategies for Harmful Algal Blooms in Coastal Waters - report*



# EGASC – What it does

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- **EGASC** is being developed as an electrocatalytic oxygen generator and mobile aerator for use in coastal marine or inland water environments for physical and/or electrocatalytic water treatment. Oxygen or hydroxyl ions produced by **EGASC** & introduced into the region of water will inhibit the growth of harmful algae and bacteria thus preventing hypoxia in marine organisms.



*The environmentally and economically devastating effects of hypoxic algal blooms like this Red Tide event are primary targets of remediation for **EGASC**.*



# EGASC – What it does (cont.)

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- **EGASC** generates pneumatic air/oxygen compression and electricity by the fast kinetic movement of the planing sailing craft, thereby offering superior components reliability over other wind energy conversion technologies requiring high stress resisting materials.



*EGASC's basic design principal and components reliability make it less likely to suffer catastrophic failure as a result of design, materials, or environmental stress.*



# EGASC – What it does (cont.)

- **EGASC** moves with the wind and has the ability to find and follow the most favorable conditions in the ocean.



*EGASC will react to prevailing wind patterns to most effectively react to conditions requiring remediation.*



# EGASC's Commercial Potential

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- Development currently awaiting funding to advance to next phase of project.
- SBIR Grant application submitted & currently under review.
- At this time, no comparable open water bio-remediation technology exists based on renewable power.
- Market planning underway to develop sales channels to drive **EGASC** technology to the market to generate revenues.

*Economists from the University of Massachusetts and the Center for American Progress concluded in a study last month that the economic stimulus and the climate-change bills would generate \$150 billion a year in clean-energy investments, netting 1.7 million new jobs annually.*





# The EGASC Team

Comprised of a group who are well acquainted professionally & personally, the **EGASC** team have worked together in similar capacities in the past:

Principal Investigator:

Dr. Radek Sobczynski – ChemLed Technologies, LLC

20+ yr interdisciplinary experience in major scientific instrumentation corporations

Business and Market Developer

Eugene Marino III

20+ yr. marketing, branding, communications and sales channel development experience in major scientific instrumentation corporations

Analytical and Physical Chemistry

Dr. Dorothy Sobczynski – ChemLed Technologies, LLC, Adjunct Prof. at Fairfield University

20+ yr. academic and applied research experience

Electrochemist - consultant

Dr. Jerzy Chlistunoff – Los Alamos National Laboratory

20+ yr. academic and applied research experience

