



Ocean Energy Expertise

Hermann Kugeler

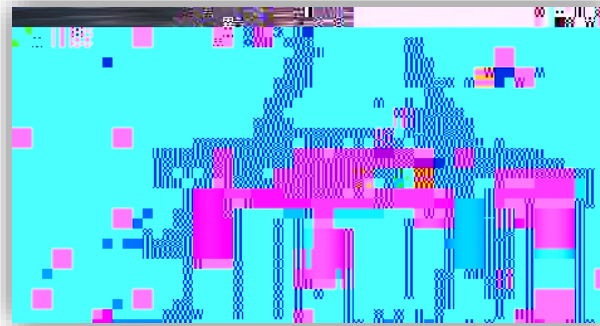
Sustainable Water and Energy Solutions Network Webinar

June 29th, 2021

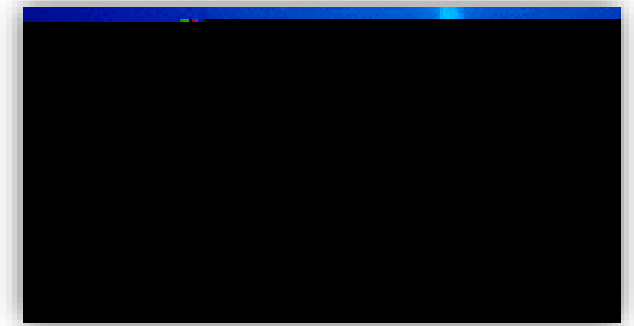


Submarine Cable Software

World's #1 cable software
Installed +250k miles



Ocean Energy



Subsea R&D and Technology

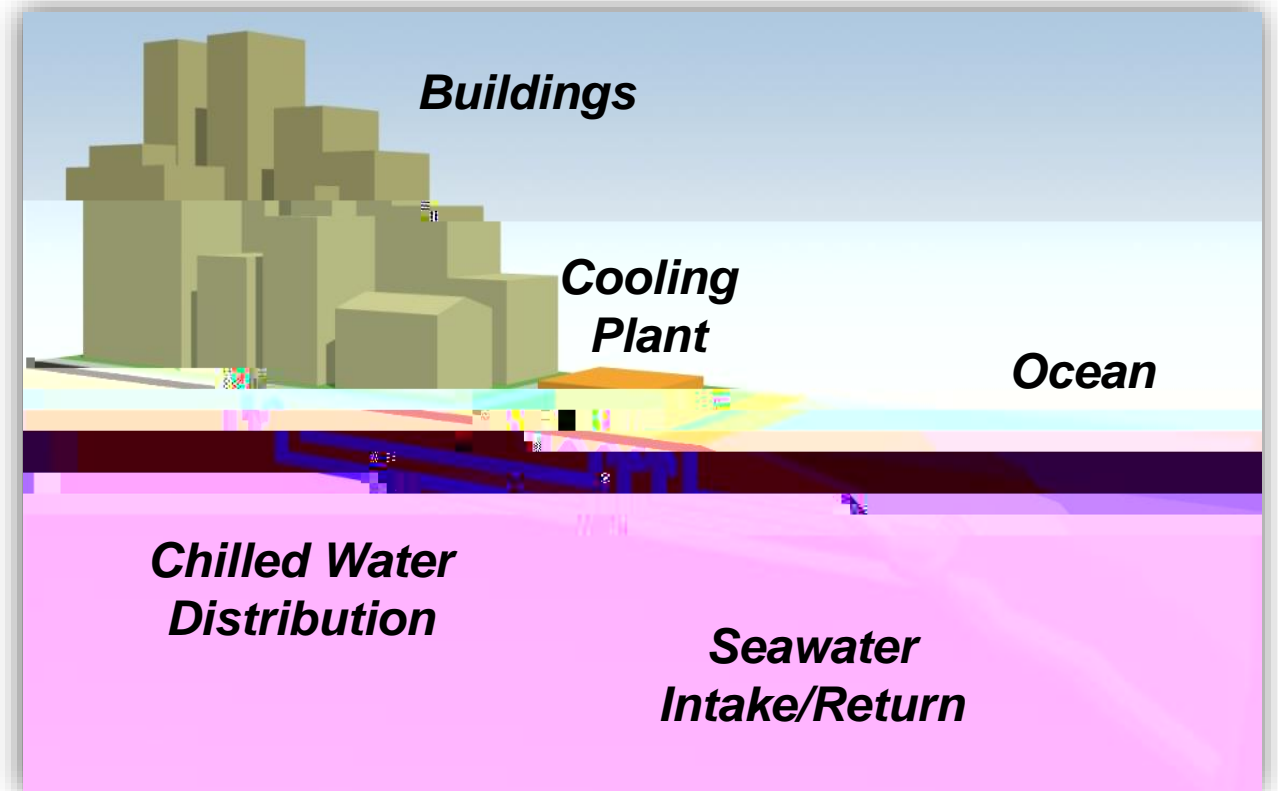
Seawater Air Conditioning (SWAC)

Main Components

- Offshore pipes
- Chilled water loops
- Pumps
- Heat exchangers

Benefits

- Economic payback can be <5 years
- Cooling energy reduced up to 90%
- Potable water use eliminated
- Long lasting, simple components
- Multiple commercial installations

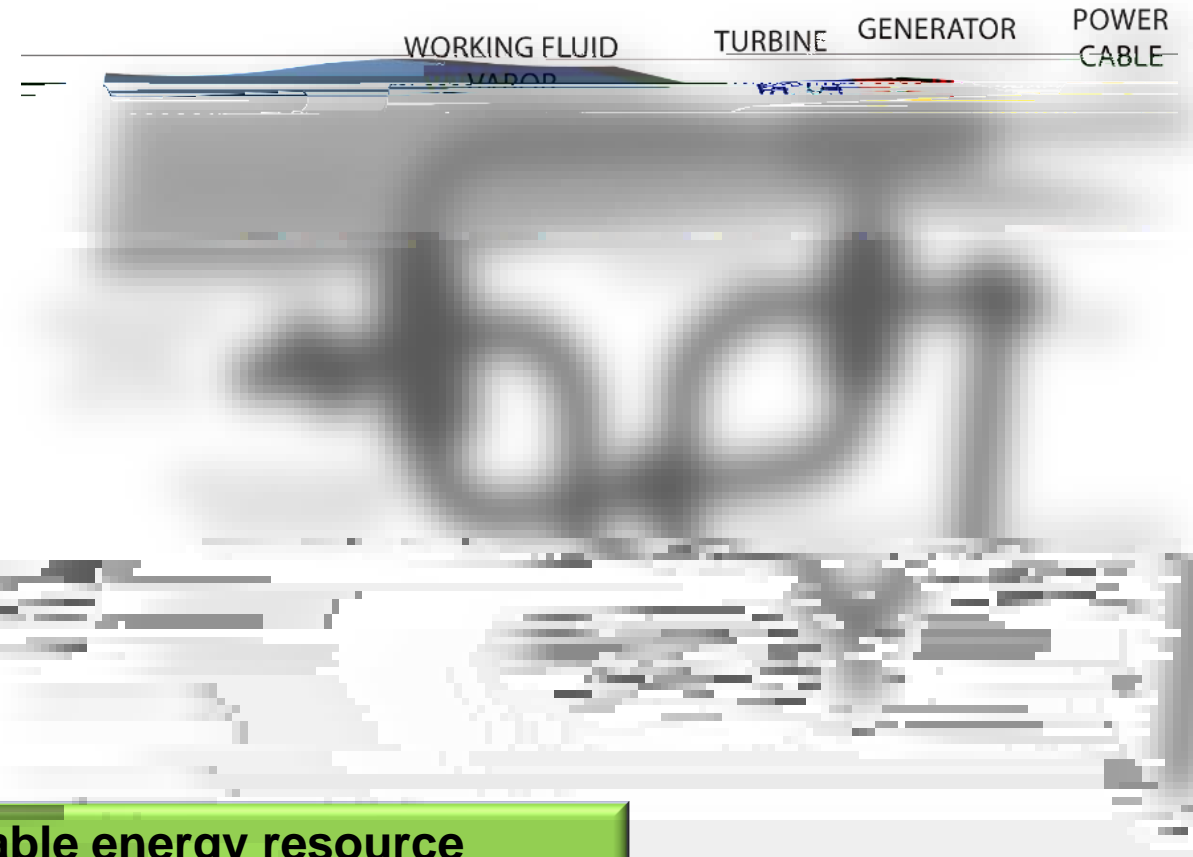


Ocean Thermal Energy Conversion (OTEC)

Leverages temperature differential between surface and deep seawater to power ORC

Seawater temperatures remain near constant

Provides baseload power unlike other VREs



Simple Components

Heat exchangers

Turbine generator

Seawater pumps and pipes

Working fluid piping and pump

24/7 baseload renewable energy resource



Heat Exchanger Testing

Funded since 2009

Third-party & Makai's own designs

OERC Facility

~45,000 liters/min seawater

High accuracy instrumentation

Fully automatic controls

Takeaway: No heat exchanger on the market meets OTEC's high demands.



Features

Ultra-Compact

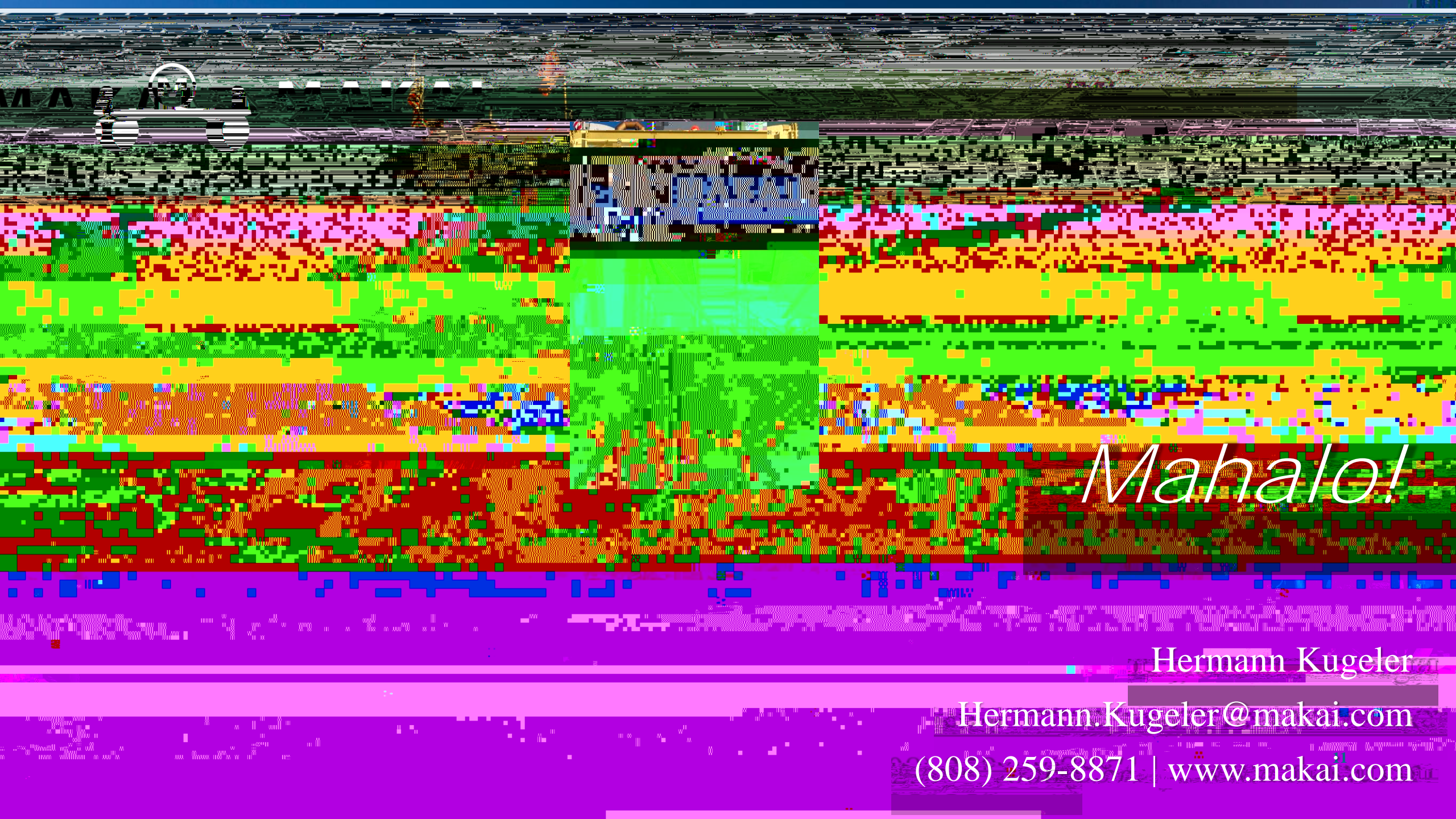
Lightweight

Corrosion Resistant

Form Fitting

Advantages

Up to 5 - 8x more compact



Mahalo!

Hermann Kugeler

Hermann.Kugeler@makai.com

(808) 259-8871 | www.makai.com