



**The Ten  
Commandments  
for  
WECs!**

*Thou shall.....*

*Thou shall not.....*

*You wish you had not.*

## Comments over the Years.

- **Device Size;**
- **PTO (Salter);**
- **Pitch & Heave (Evans);**
- **Control (Thomas);**
- **Arrays & Interaction.**



Hydam Technology MWP



Azores OWC



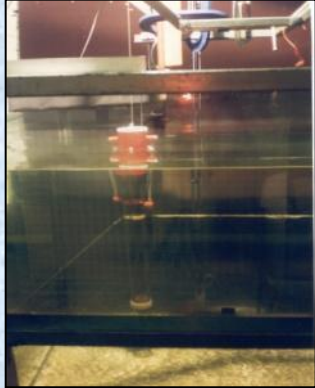
OE Buoy



Wavebob



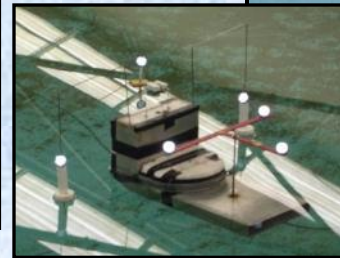
Wave Dragon



IPS Buoy



Teamwork Technology AWS 1



Kaimei



Rock OWC



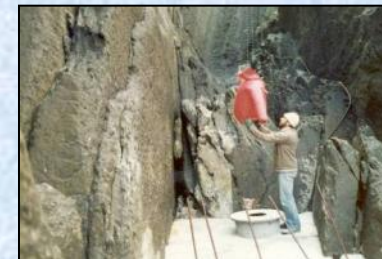
B2D2



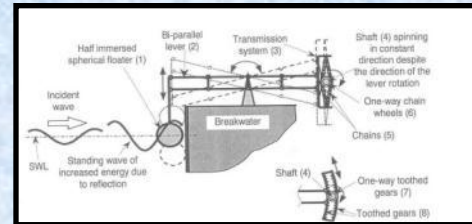
WavePlane



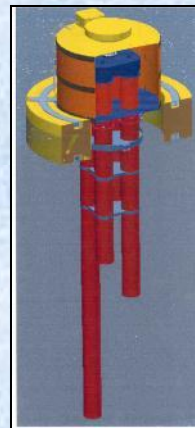
Waveberg



Bull OWC



EcoBuoy

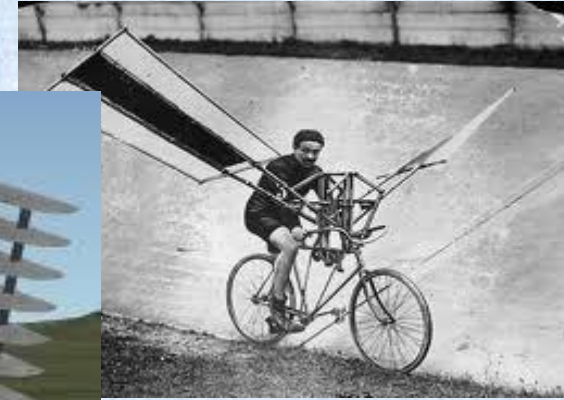
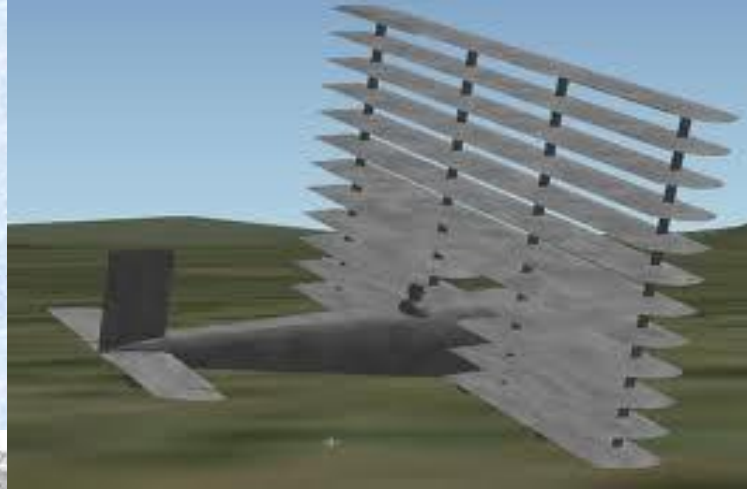


SPERboy

10 Commandments for WECs!



# A Previous Similar Experience



**10 Commandments for WECs!**



**Right engineering  
Wrong product;  
or  
Wrong time.**

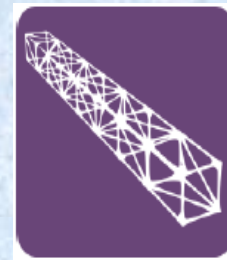
# Topic Areas

**Installability  
and  
Maintainability**



**Reliability**

**Energy Capture  
and Conversion**



**Scalability**

**Survivability**

SCALABILITY;

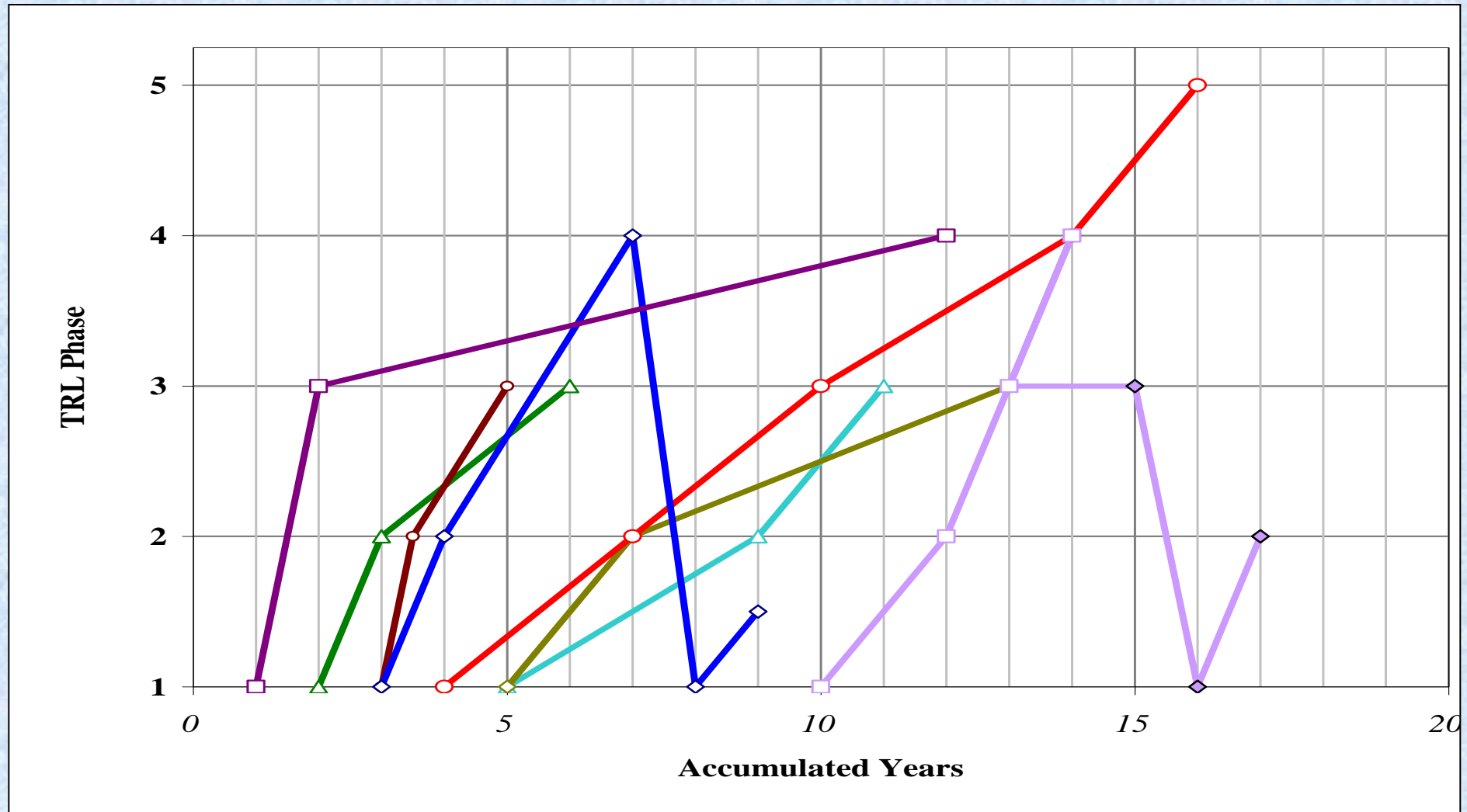
From small models  
to full size prototypes.

How not to get stuck in a  
test tank....



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# Device Development Profiles



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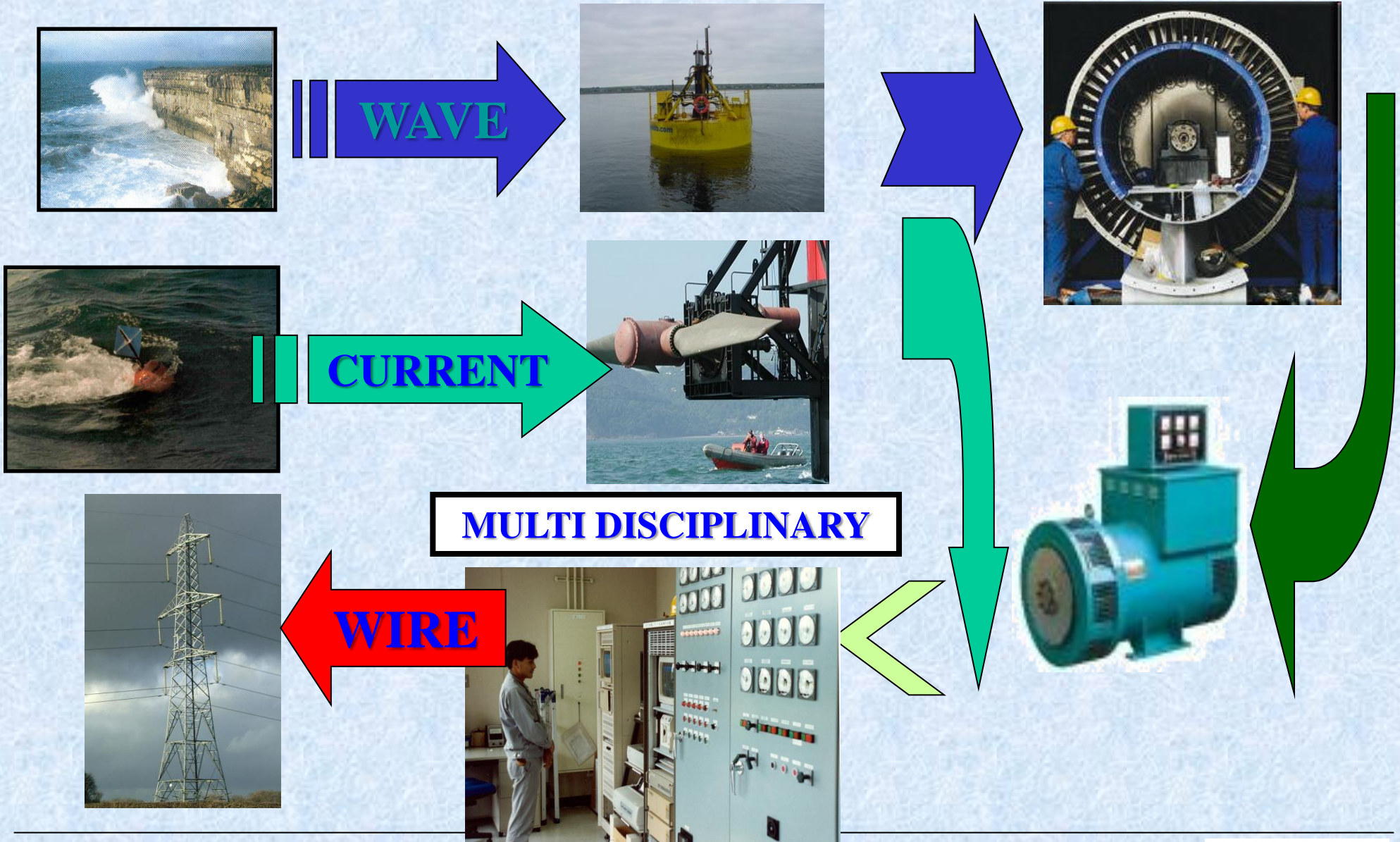
ENERGY CAPTURE

&

CONVERSION;

Consider the whole system?

From wave to wire.



10 Commandments for WECs!

INSTALLABILITY  
&  
MAINTAINABILITY;

Proven in sea trials;  
Considered in the design statement;  
Tested at scale.



**Seabed Mounted,  
Aquamarine**



**Floating,  
Pelamis**



**Deployment/towing  
Neptune**

RELIABILITY;

Bench testing and accelerated  
fatigue;

Redundancy v cost;

**EMEC workshop, Glasgow.**



## Many Device Concepts



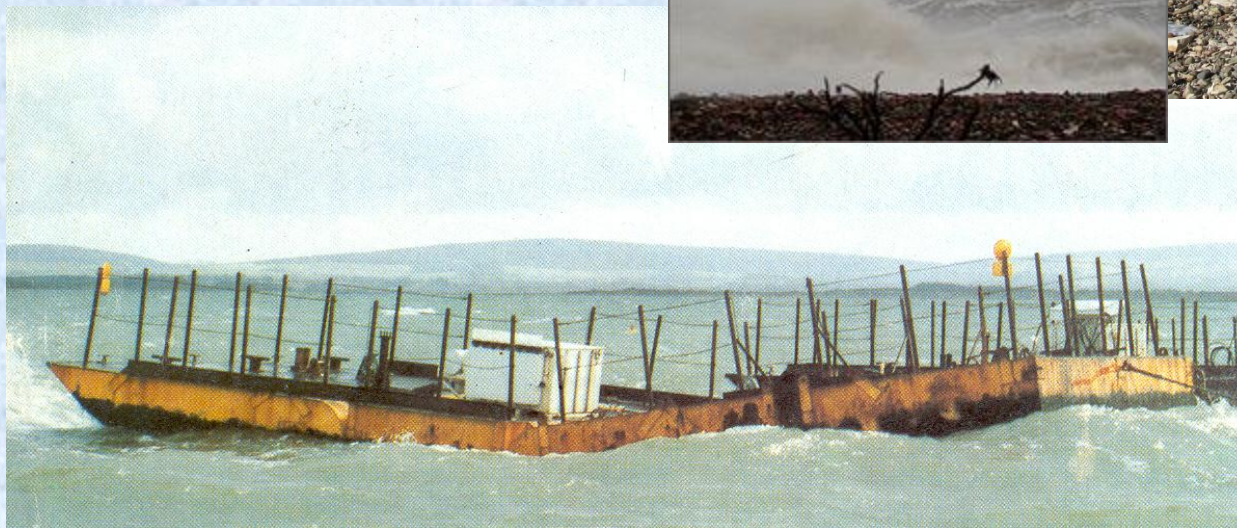
# SURVIVABILITY;

Extreme hull motions;

Mooring loads & characteristics;

PTO end stops;

Storm strategies.



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