

EIANZ - FOUNDATIONS FOR TOMORROW

CEnvP Certification Presentation

- **DISRUPTORS TO THE ENVIRONMENT PROFESSION**
 - History
 - People
 - Politics
 - Technology



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Presenters

- Emeritus Prof Tor Hundloe
- Jon Womersley, EIANZ Past President
- The Honorable Kym Mayes
- Jacob Arnold , Undergrad UQ
- Bill Haylock, Past President/CEnvP Board

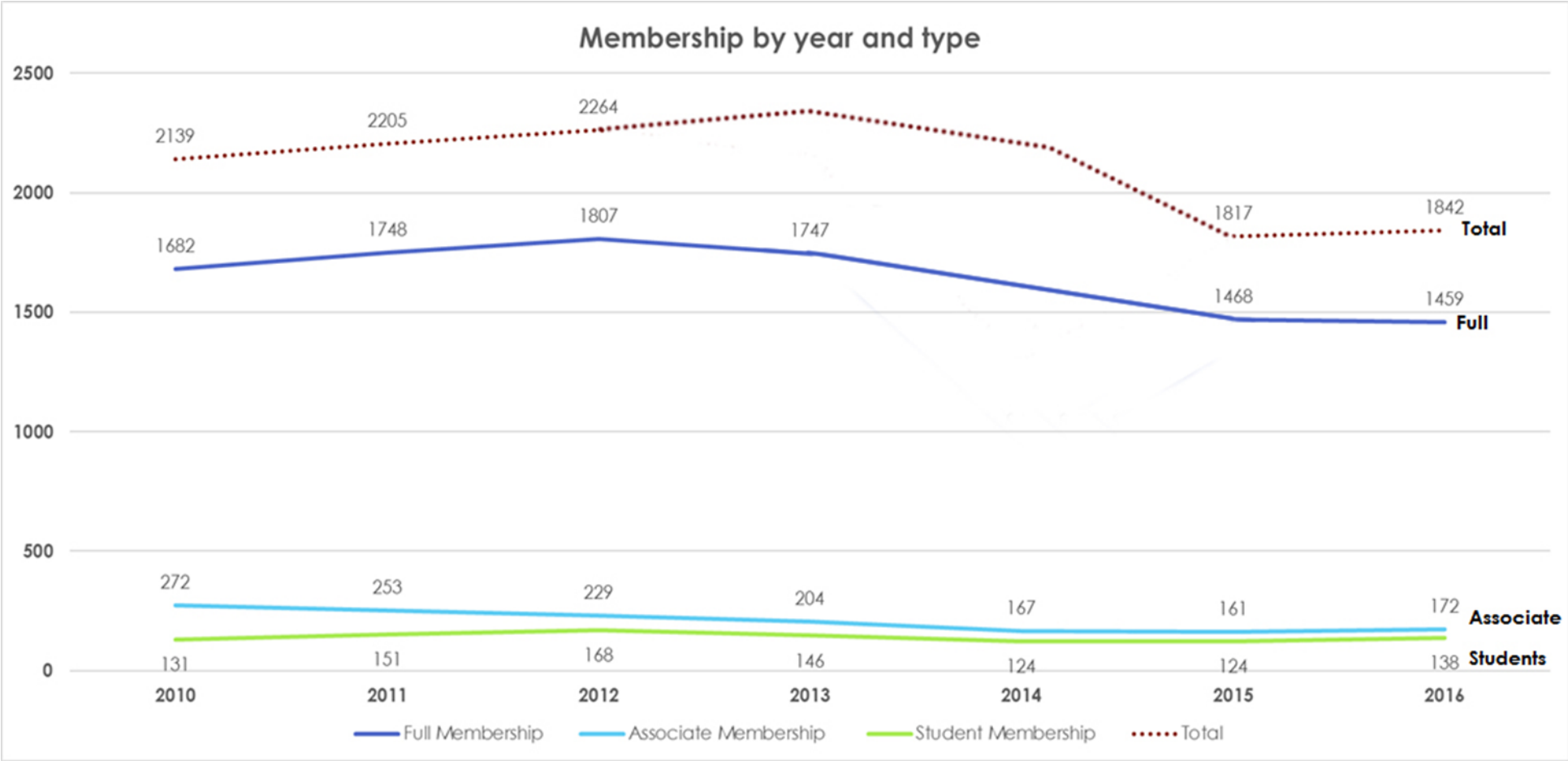


History – Emeritus Prof Tor Hundloe

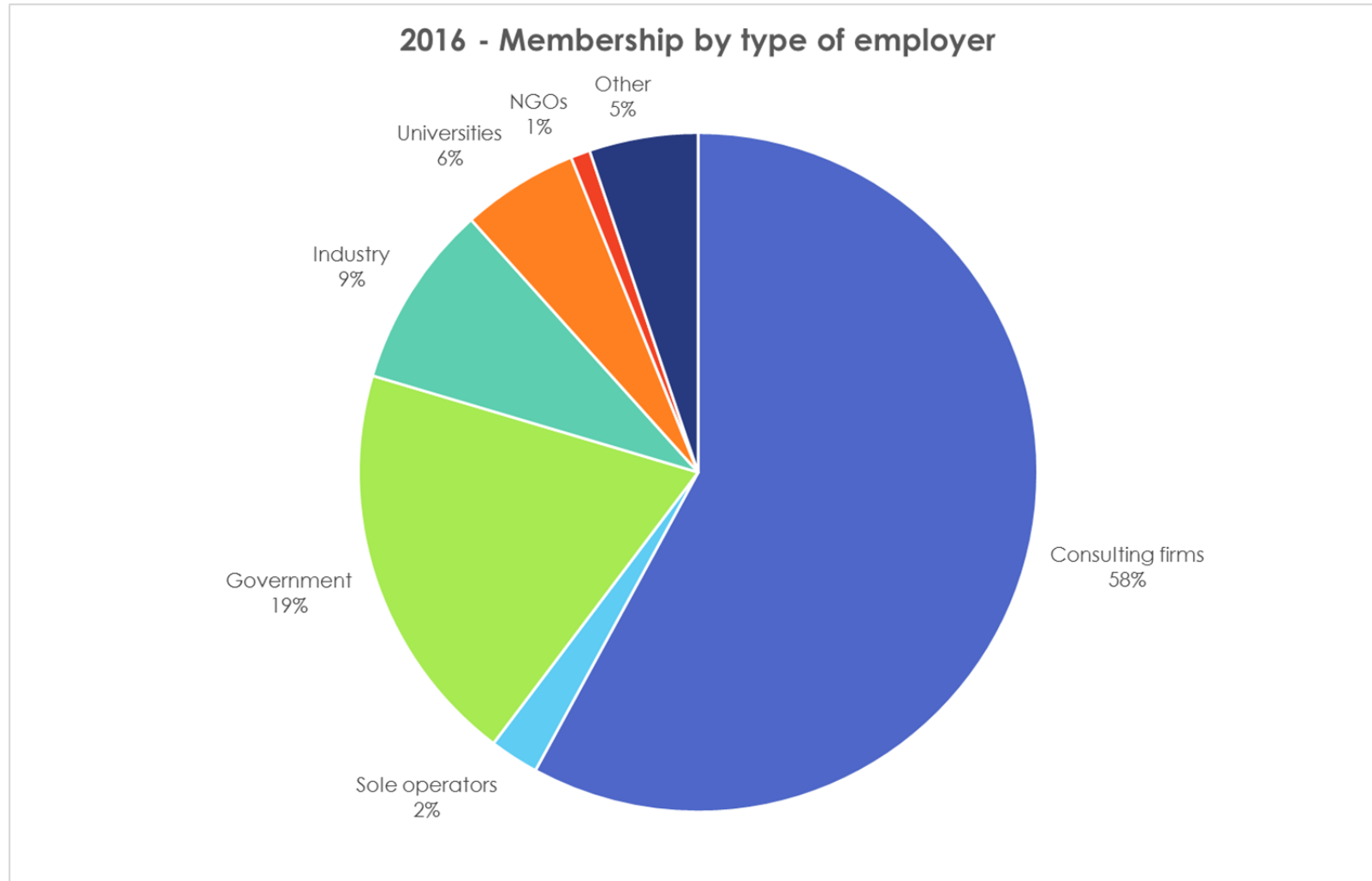
- EIANZ Membership
 - By year and type
 - Division
 - Employer
 - Gender



Membership by year and type



Employer

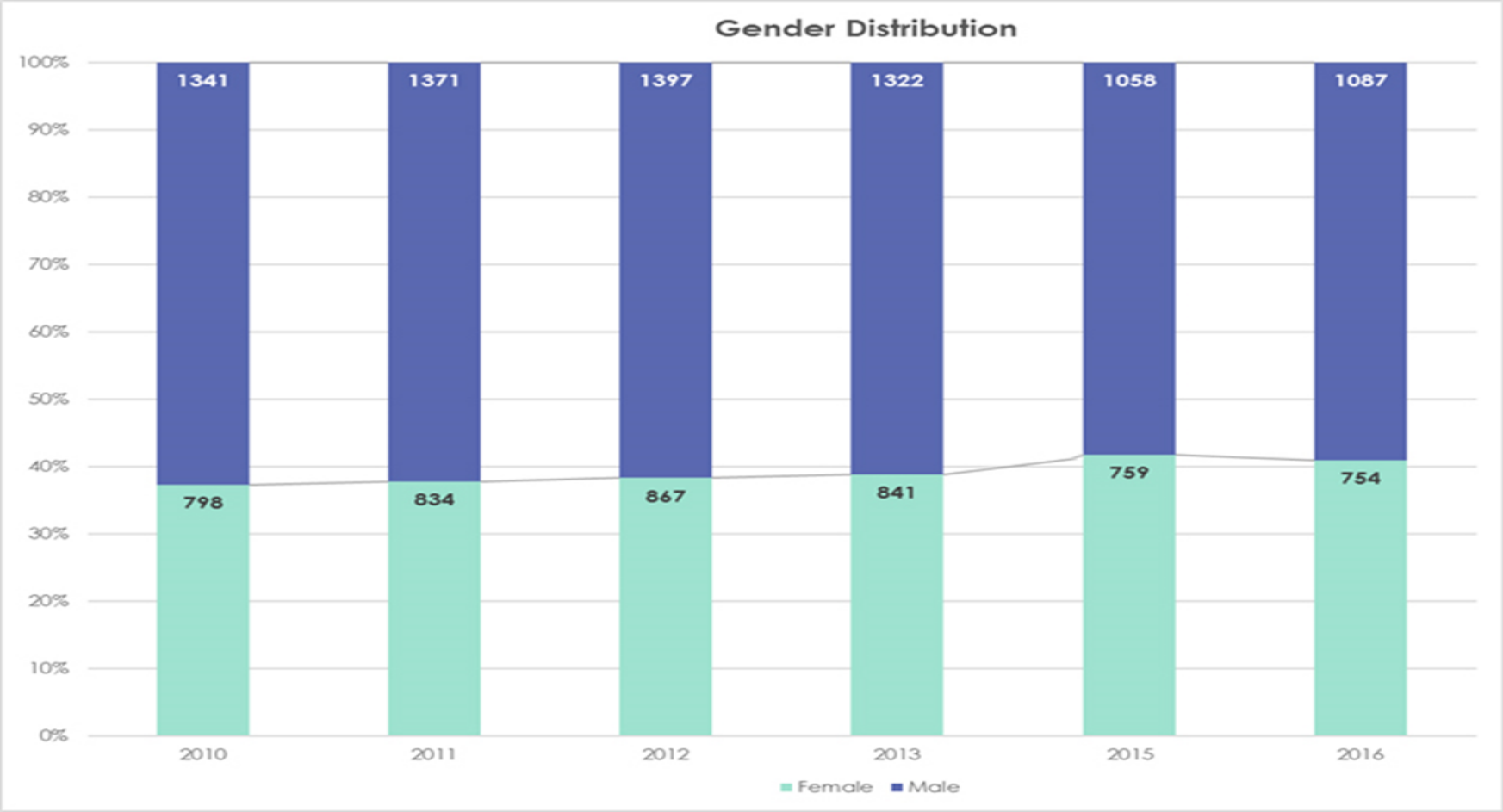


Membership retention

- ➔ Of the 2139 members EIANZ had in 2010, 34% were still members



Membership by gender



People as Disruptors – Jon Womersley

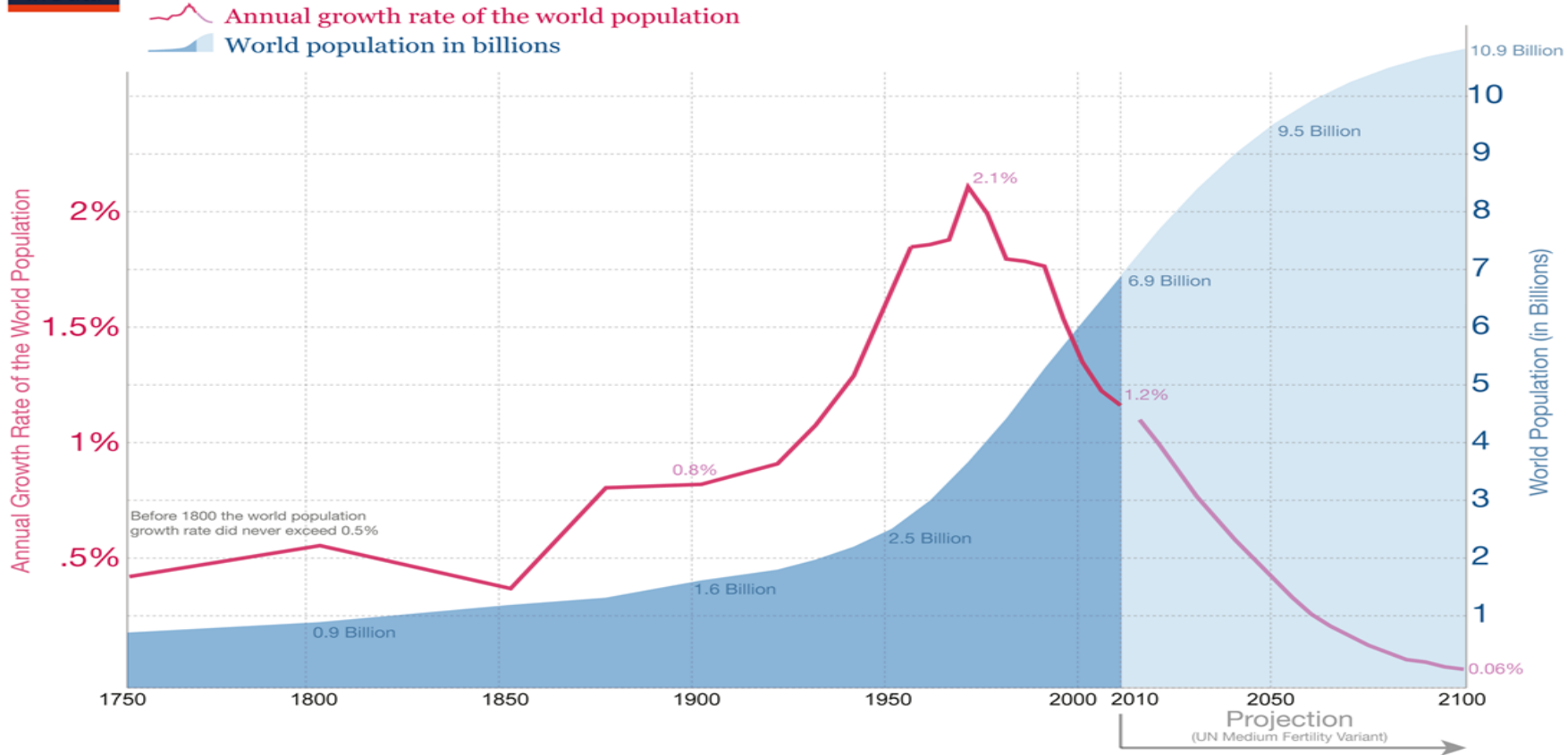
- Population growth and distribution disrupts the resilience of the planet and its capacity to sustainably provide ecosystem services
 - Water
 - Food
 - Shelter / Security
 - Energy



Another 3.8 billion people!



World population growth, 1750-2100



Data sources: Before 1940: Kremer (1993) – "Population Growth and Technological Change: One Million B.C. to 1990"; After: UN Population Division (2012), including population projection (medium variant)
The data visualization is taken from OurWorldinData.org. There you find the raw data and more visualizations on this topic.
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Politics – Honourable Kym Mayes

- Is Politics a **Disrupter to the Environmental Process ?**
- **political process**
- **how it impacts**
- perspective of a **former Labor politician** and activist (*Feather duster class*)
- some conservative politicians and commentators will argue that the Environment is the disrupter.



Political Process

- **profession** saddled with are the Democratic political process
- you're in it so get on with it **and learn how it operates** (Churchill's quote "it aint the best etc)
- democracy is good for you.
- a great deal of **uncertainty in the Environmental debate**
- not going to change in the short-term.
- Your **profession** can make a contribution
- need greater status and clout
- hired guns going to the highest bidder.



Political process

- It is adversarial and will remain so.
- how the major parties work
- **always look behind the facade**; there are always competing interests.
- Structure of the Parties; Factions , Branches, National executives. Look at the Balance in the Parliament. States V Federal
- Don't attack the NGO's; they carry power and influence. Learn to engage NGO's



Political Process

- Examine which **seats** the Parties hold and **where**
- Look at the **breakdown of the electors**, backgrounds , education, occupations etc.
- **seats** will influence political decisions, Adelaide city Parklands, Green voters in inner city Brisbane.
- weigh up the **power of the factions** and the power of winning Government. Labor structure; LNP structure. Power base for each.



Has the **Political agenda changed** from my days?

- **yes.** young women and men in dark suits and neutral coloured shirts etc who see politics as a career
- **Ministers now rely on their advisors** and much less on the public/civil servants
- Secretary's - without fear or favour role
- “young Turks” took over the Ministerial process
- **be aware where the Power lies** - young “Politically Grey” advisors
- couldn't give a toss about the issues, interested in their success and winning the issue to get attention and promotion to a seat(look at the stats).



Impact of Technology.

- Has it changed the process? Yes absolutely.
- Media 24 hour cycle.
- Demise of newspaper; under 40 years age don't bother .
- Information and technology available to the Parties and Lobbyists. Obama campaign ALP etc .
- Communications- emails Sec H Clinton etc.
- Your profession must have all of this; EIANZ must provide the catch all for you to survive.



Science and Evidence based Argument.

- Does all this mean we ignore the science and evidence to support your position/case? No.
- You must do the Science thoroughly and be transparent and honest(admit it if you got it wrong; Beattie V Trump V Nixon etc).
- The True sceptic is the real scientist.



Establish the Profession

- Look at the **very successful Professions**; AMA (Medicare), Nurses, Pilots, and Lobby groups e.g., Miners. Those groups Lobby and liaise 24/7. Take one look at Parliament House and the place is crawling with FT Professional Lobbyist for those Groups.



Establish the Profession

- Ted Kennedy once said to me in the USA context; “You get the quality of Senators you pay for”
- Finally , George Washington said in 1779, during the Continental war of Independence when the Continental army was in despair and defeat looked eminent, of the Congress ;
“where are our Men of Abilities?”, “Why do they not come forward to Save our Country?”.



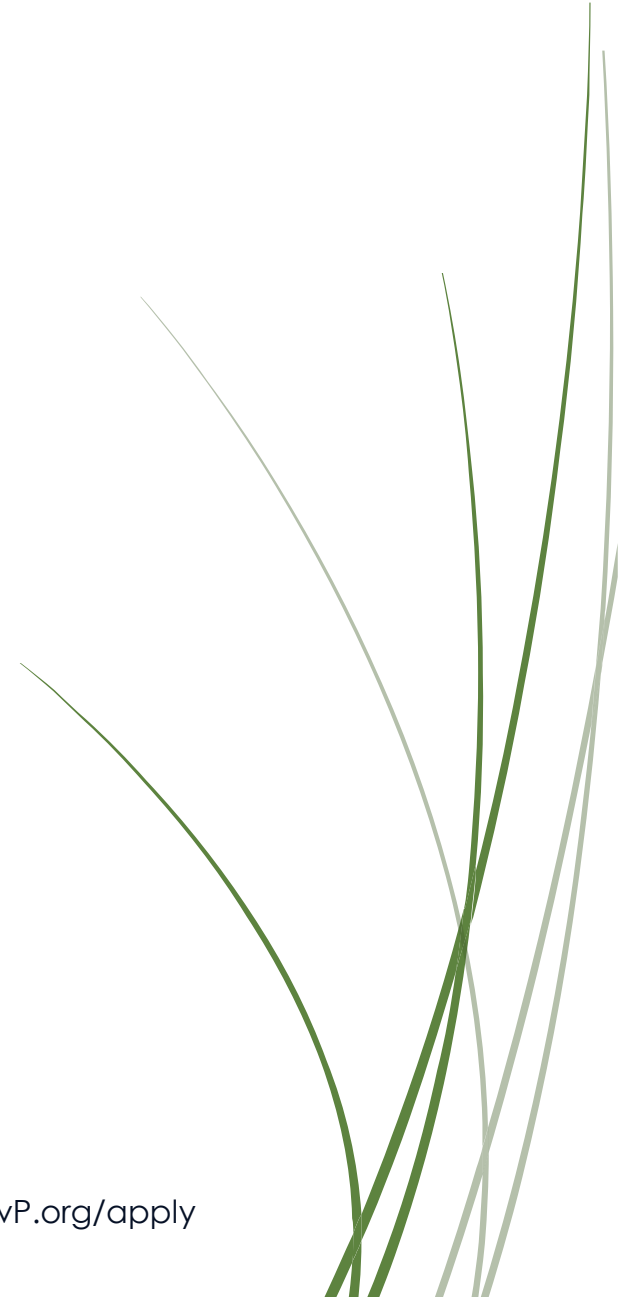
Technological Disruptors – Bill Haylock

- Four specific rapidly advancing areas of Technologies
- What might these be?



Technological Disruptors

- Sensors
- Wireless Connections
- Artificial Intelligence
- 3D Printing



Sensors

- Increase in numbers
- Increase in computing power
- Implantable sensors
- Connected glasses and contact lenses



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<http://www.eianz.org/aboutus/eianz-code-of-ethics>

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Wireless connections

- Underwater
- Automation of buildings



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New Technologies

- Smart Environmental Monitoring Analysis Technologies (SEMAT)
- Unmanned Aerial Vehicles (UAVs) and Artificial Intelligence in Wildlife Monitoring

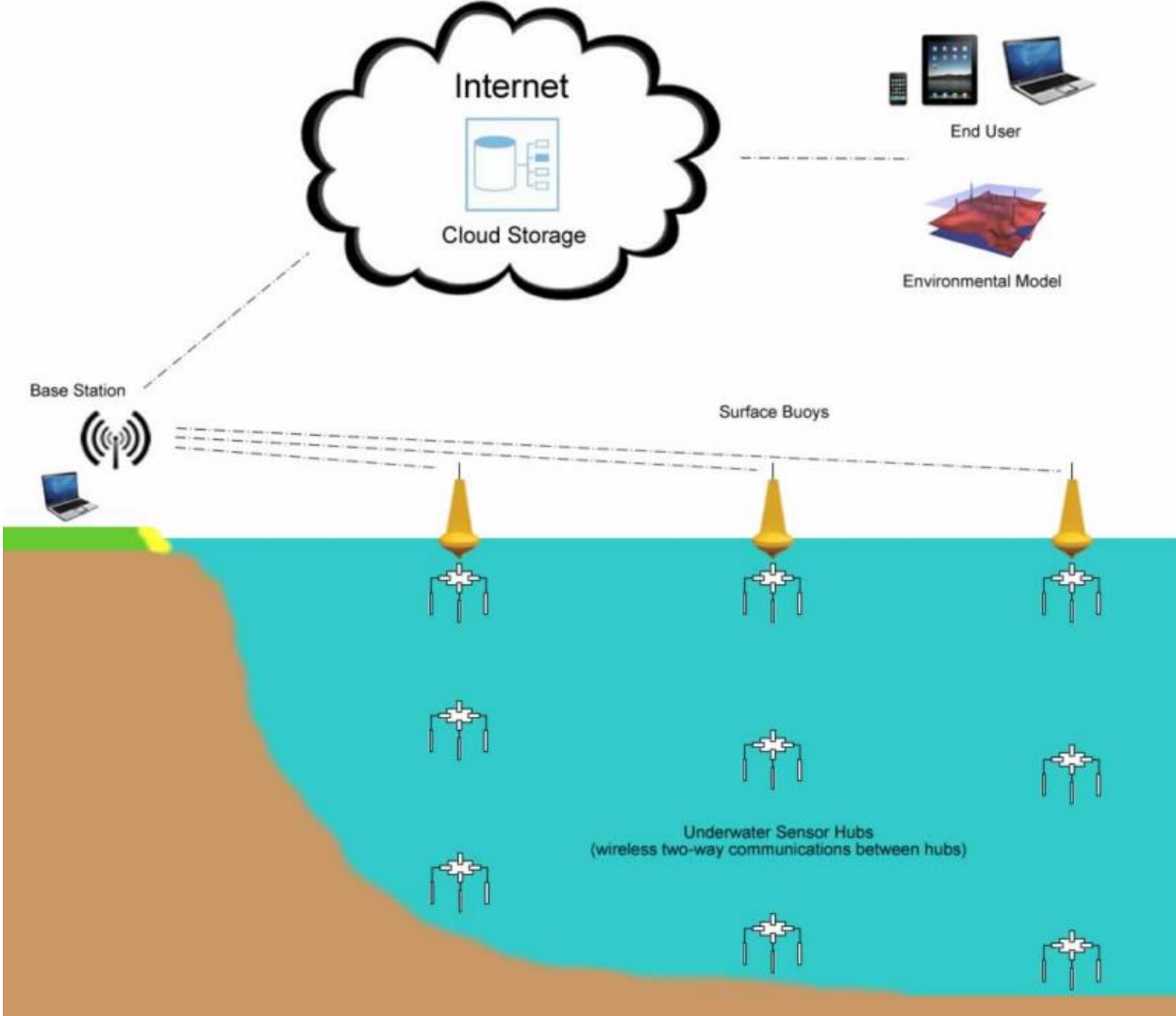


Smart Environmental Monitoring and Analysis Technologies (**SEMAT**)

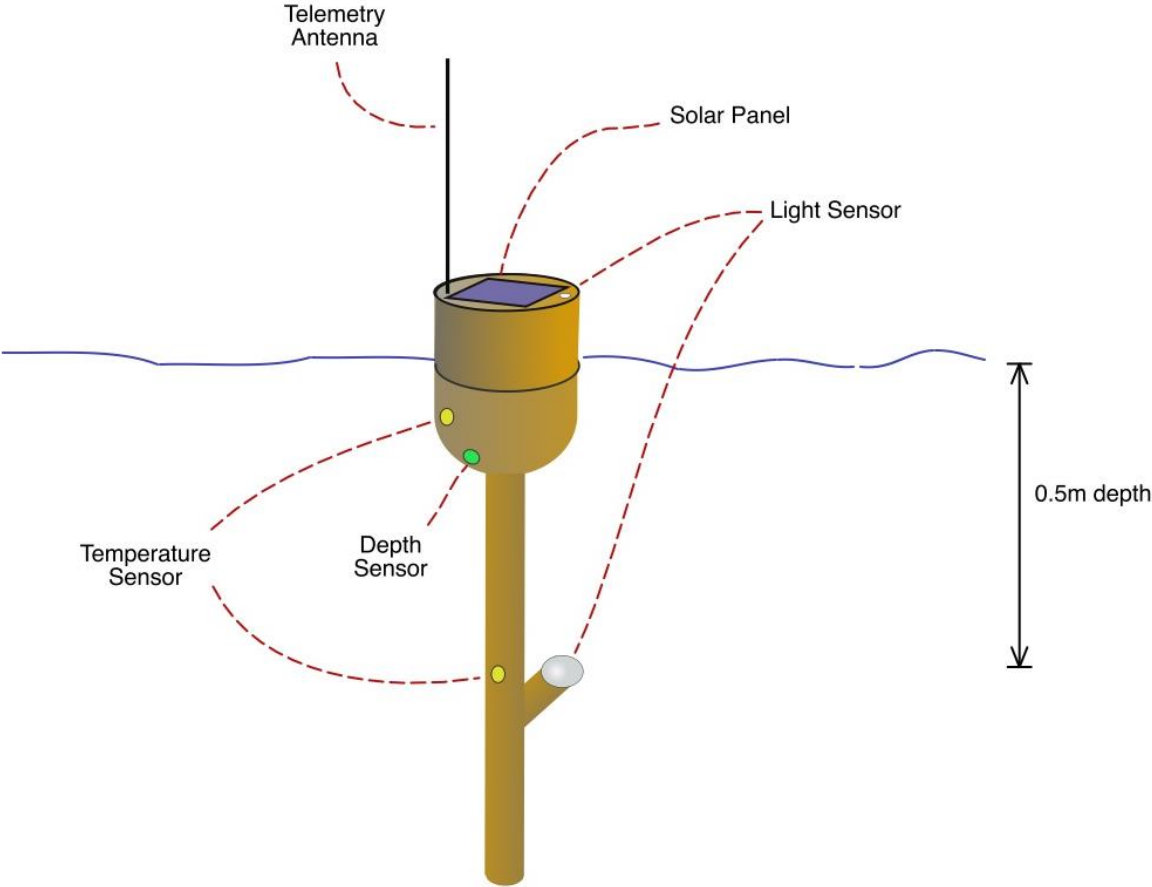
- Wireless sensor network technology
 - Underwater wireless communications
- Near real-time analysis tools
- Considerably cheaper compared to current market options
 - 1/15th of the price
- Design has overcome marine environment challenges
 - Salinity, tides



The complete **SEMAT** system



Current buoy design



Artificial Intelligence

- Automation of Tasks
- Decision Making



Unmanned Aerial Vehicles (UAVs) and **AI** in Wildlife Monitoring

- Existing monitoring methods time and resource intensive
- Research into automated wildlife detection in UAV imagery with equipped thermal imagery



3D printing

- Cheaper printers
- Cheaper manufacturing
- More facilities



Further Information

Application forms, guidance notes and further information can be obtained by visiting our website

www.CEnvP.org

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