



Water Intelli-Buoy

Team 2



Introduction



Mireia

Mech. Engin.
Spain

Charlotte

Biomed. Engin.
Germany

Geert

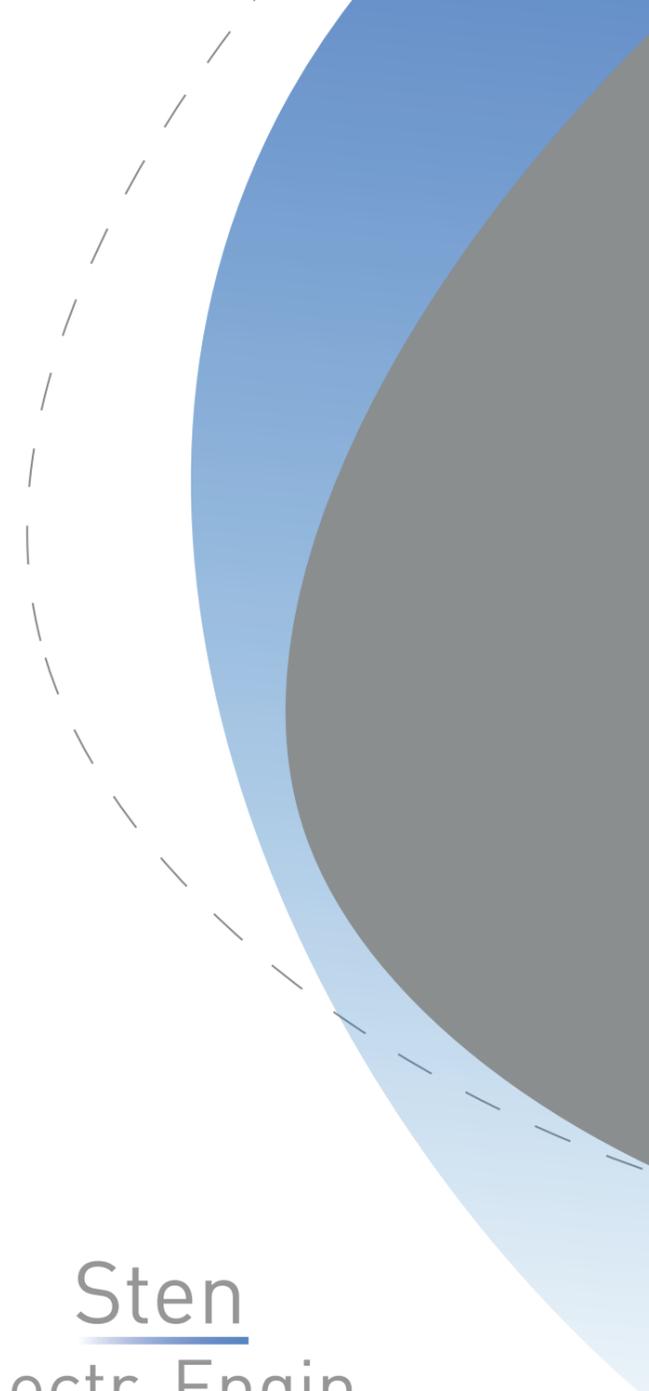
Industr. Engin.
& Management
Netherlands

Hervé

Industr. Design
Belgium

Sten

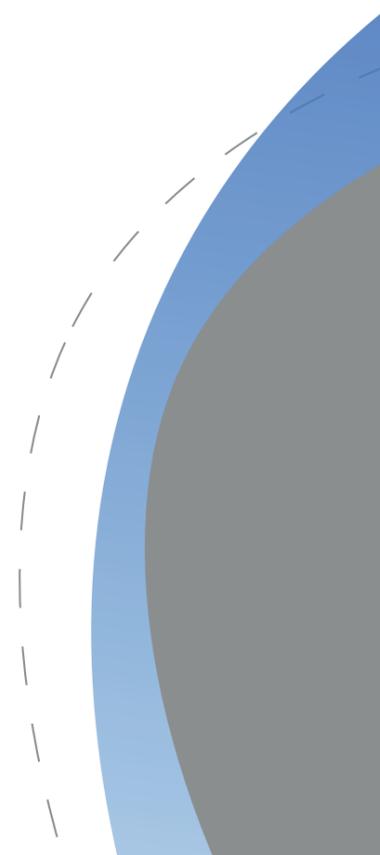
Electr. Engin.
Estonia



Contents

1. Problem statement & motivation
2. Project management
3. Design
4. Application
5. Electronics

6. Tests
7. Ethics, sustainability & marketing
8. Video
9. Conclusion

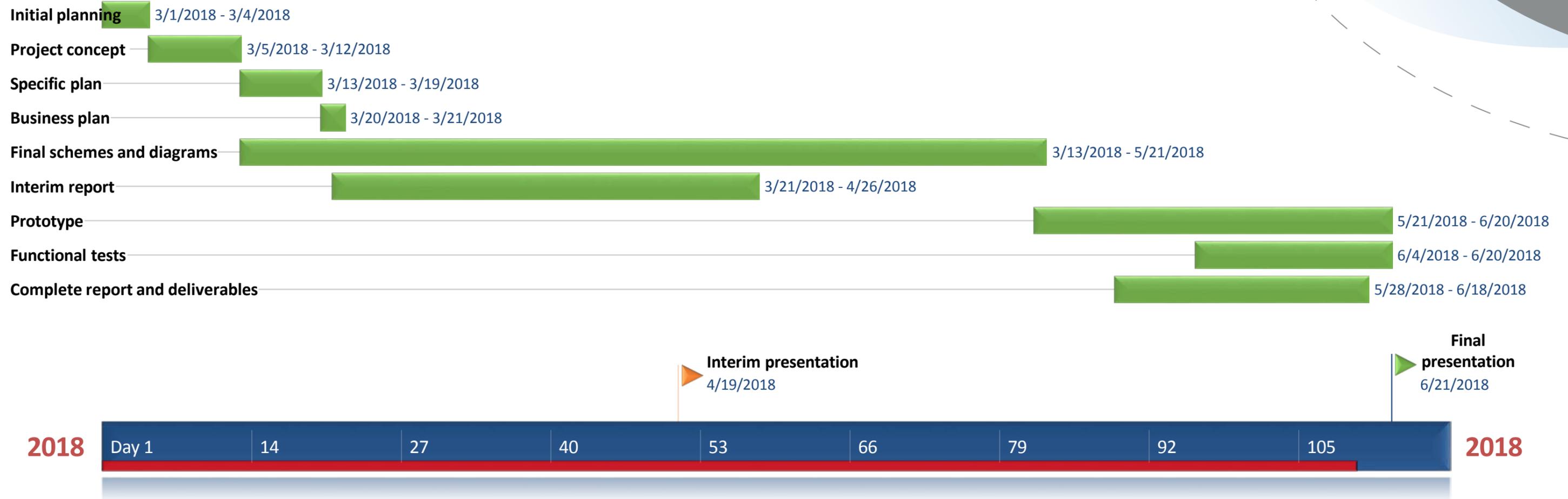


Problem statement & motivation

- Problem def.:
 - Measuring water quality = time consuming
 - Informing people = slow & inefficient
- Motivation:
 - Ability to exploit everyone's knowledge
 - Create working prototype



Project management (Time-line)

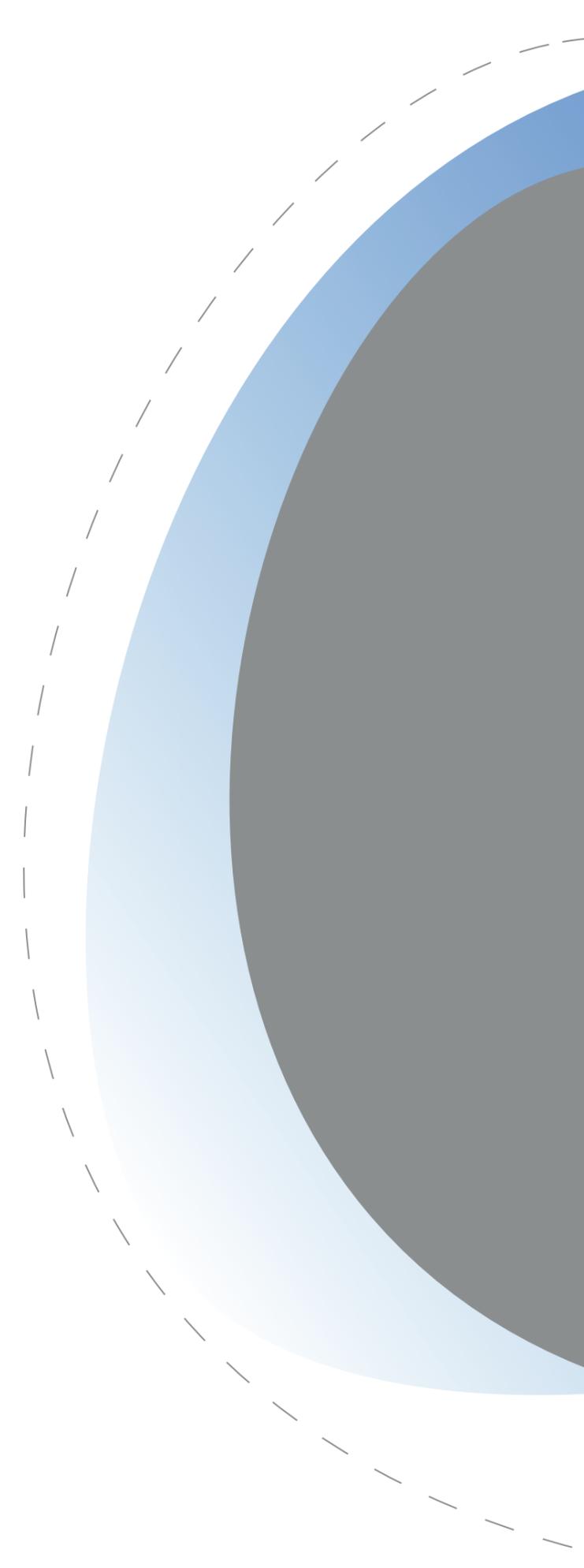


Project management (Initial VS real planning)

- Final schematics took more time:
 - Up-scaling 3D model
 - Printed in 4 parts
 - Cork depression
- Prototype and functional tests were delayed

Lessons learnt:

- 3D delay was not in the risk analysis
- 3D printing took more time than expected
- Follow the responsibilities stricter
- Keep team members informed



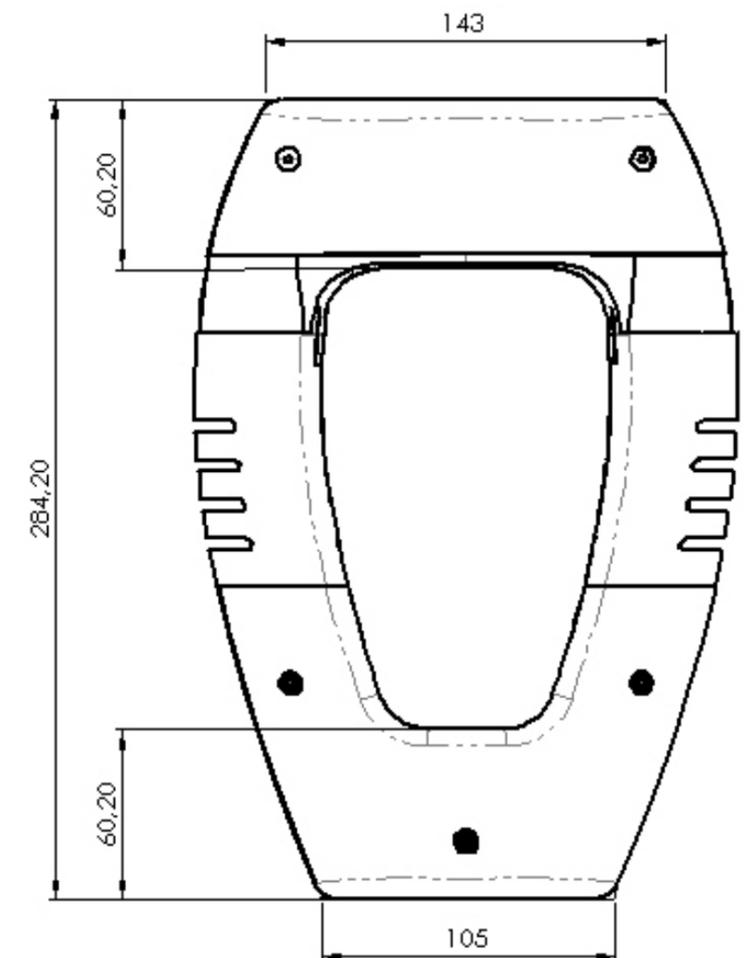
Design (general)

- Main features:
 - Solar powered
 - WiFi connected
 - Water & air temperature monitoring
 - Water turbidity monitoring
- Materials
 - PVC (Prototype ABS)
 - Cork fabric



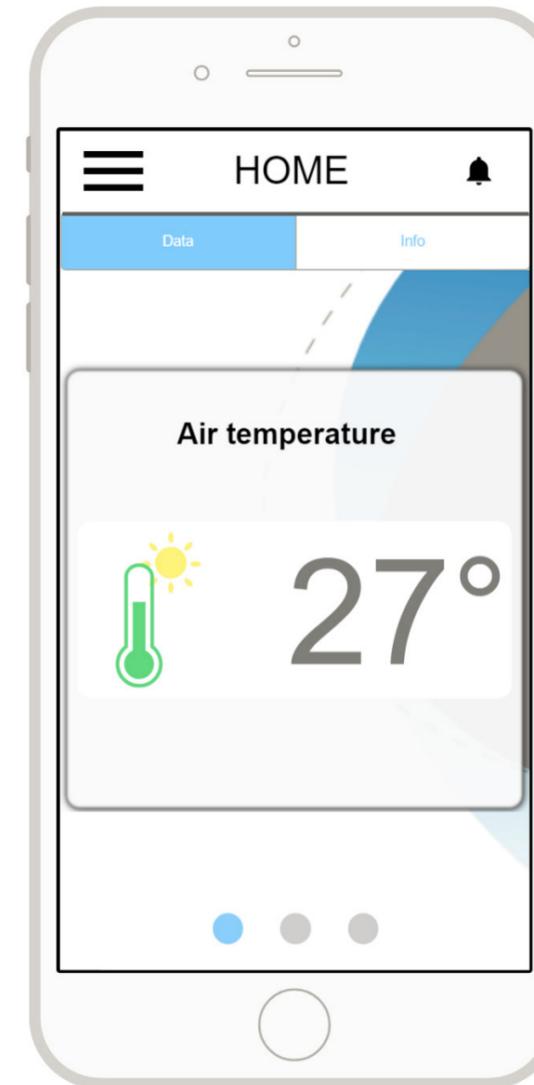
Design (Detailed)

- Assembly structure:
 - Printed in 4 parts
 - Gluing upper and lower parts
 - Placing seals
 - Screwing shells together (with o-rings)
- Most weight in lower compartment (stability)

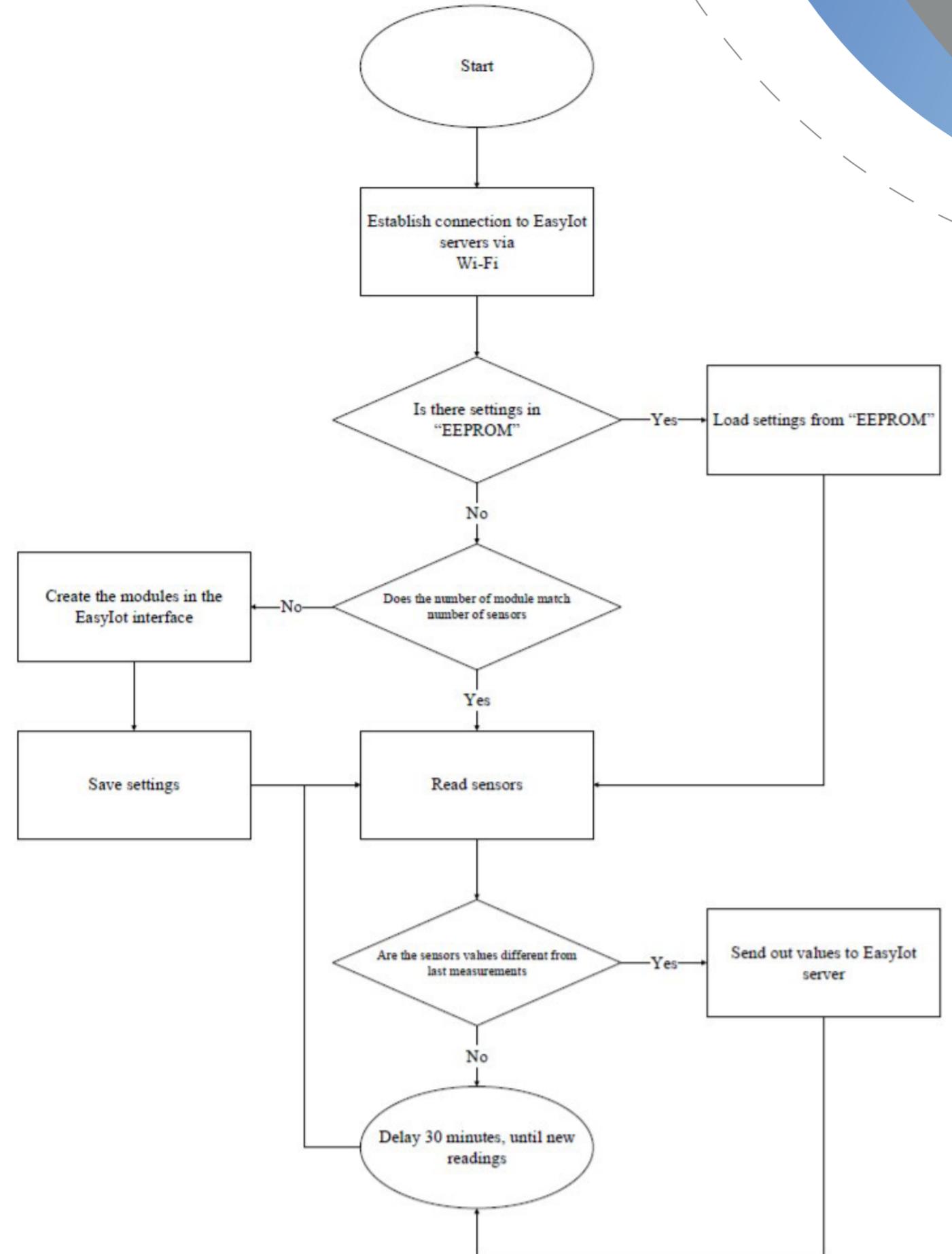
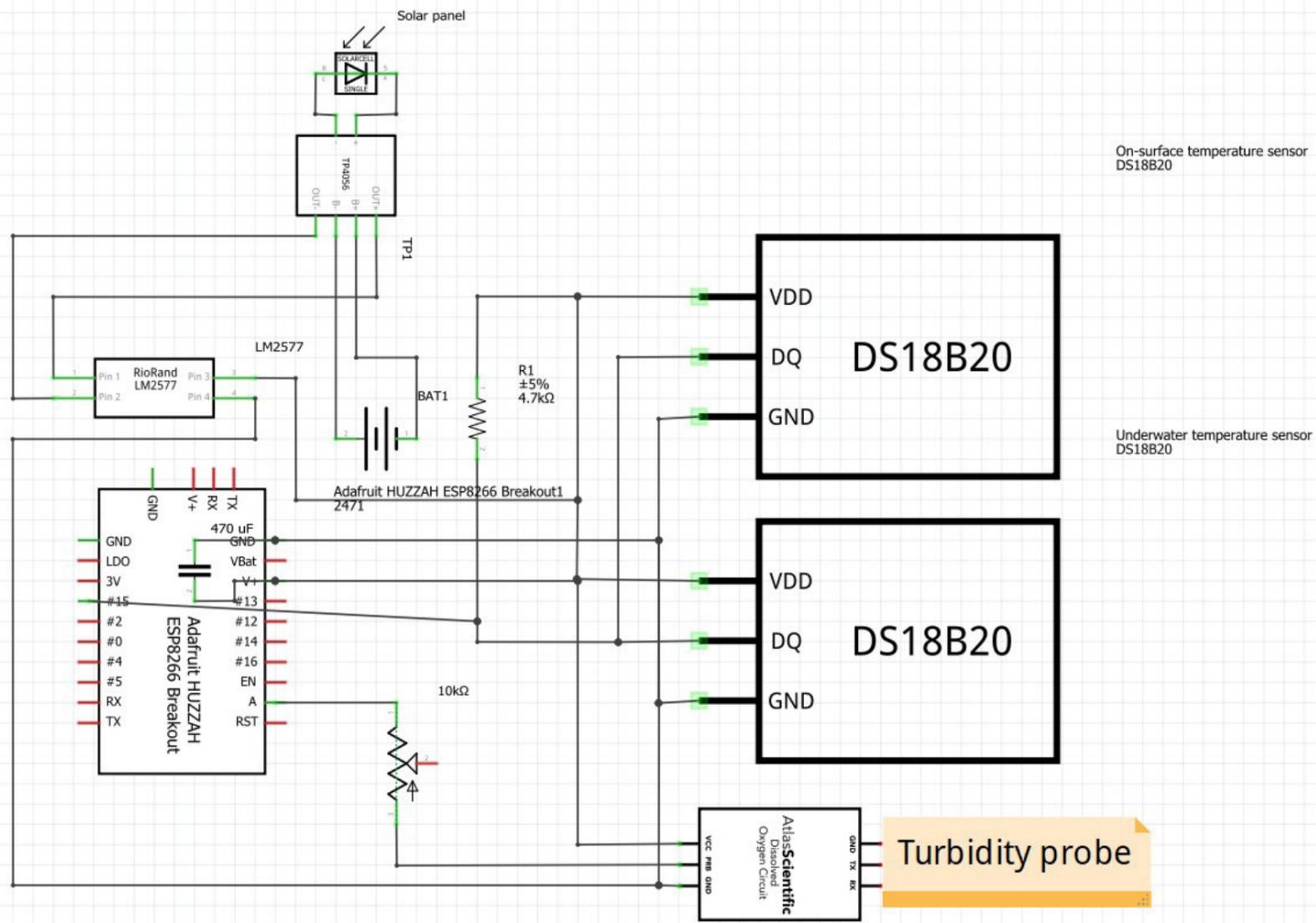


Application

- Accessing data:
 - Air temperature
 - Water temperature
 - Turbidity
- Tips & tricks:
 - Fauna in pool
 - Flora in pool
- Connect to 24/7 help-desk



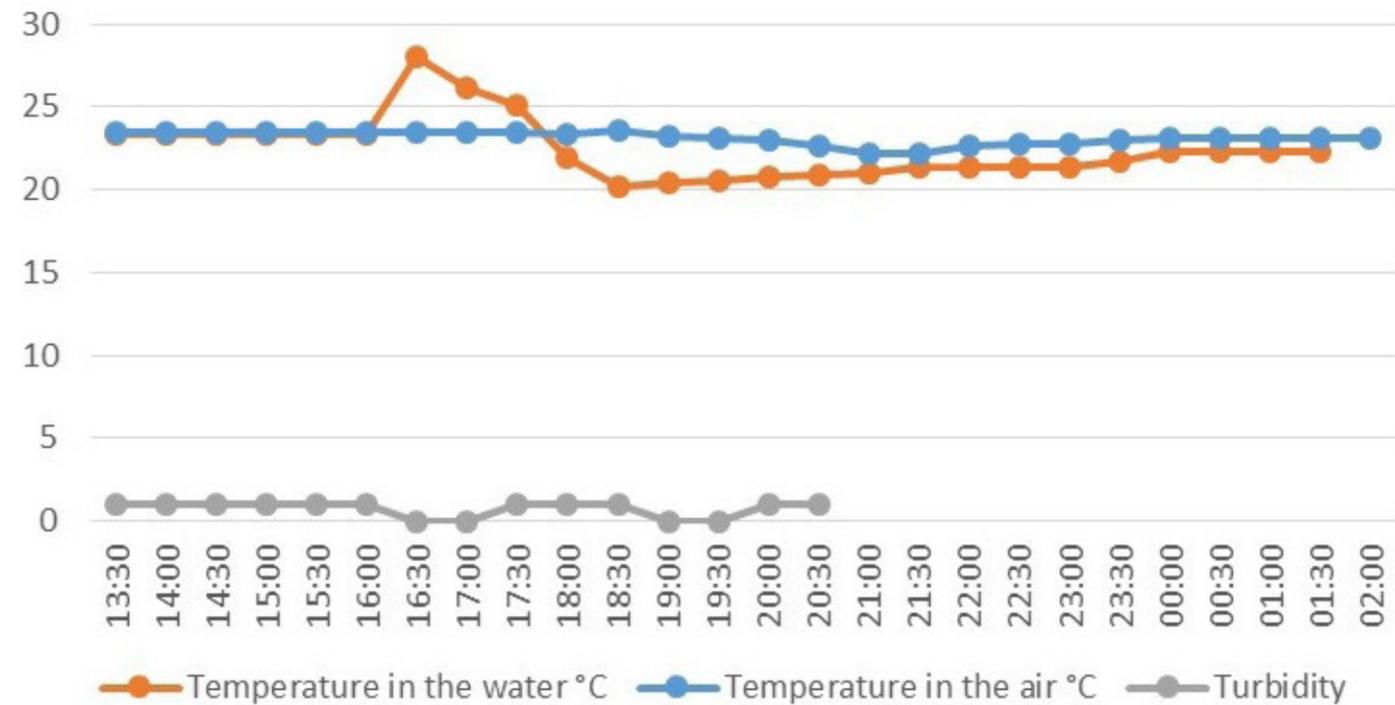
Electronics



Tests



DEFAULT		
	Water temperature	#1 11/06/2018 15:07:30
	Temperature: 20.12 °C	>
	Air temperature	#2 11/06/2018 15:06:50
	Temperature: 23.69 °C	>
	Water turbidity	#3 11/06/2018 15:06:55
	Turbidity: Clear	>



Ethics, sustainability & marketing

-Ethics:

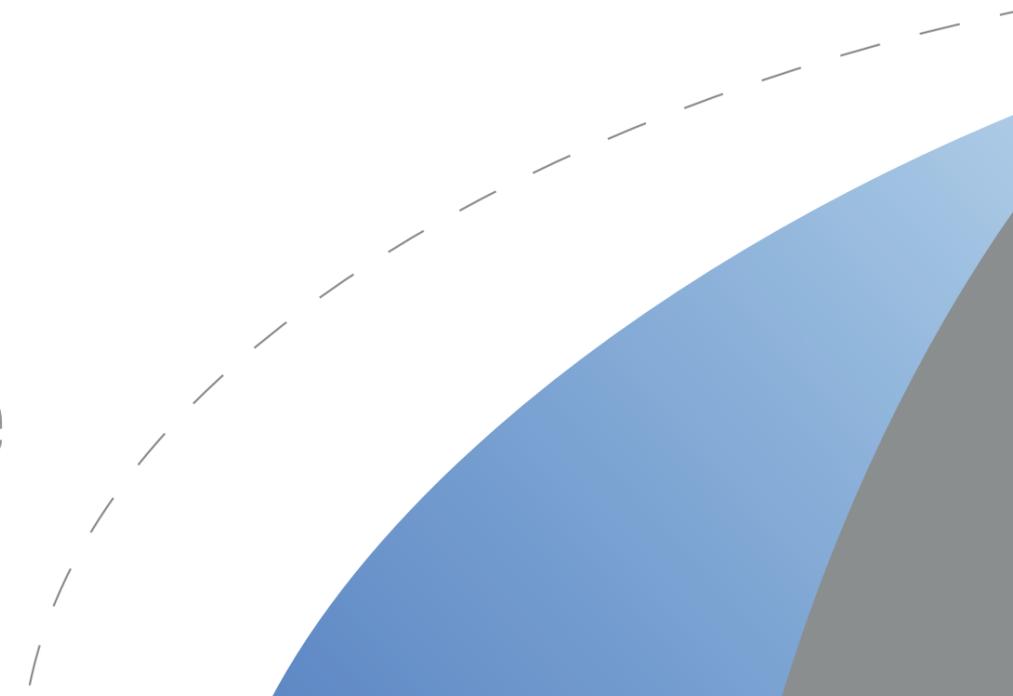
- Long term clear vision on:
 - Pricing
 - Advertising
 - Employees

-Sustainability:

- Use of sustainable materials (PVC & cork)
- Maintenance focused design (Product Service System)

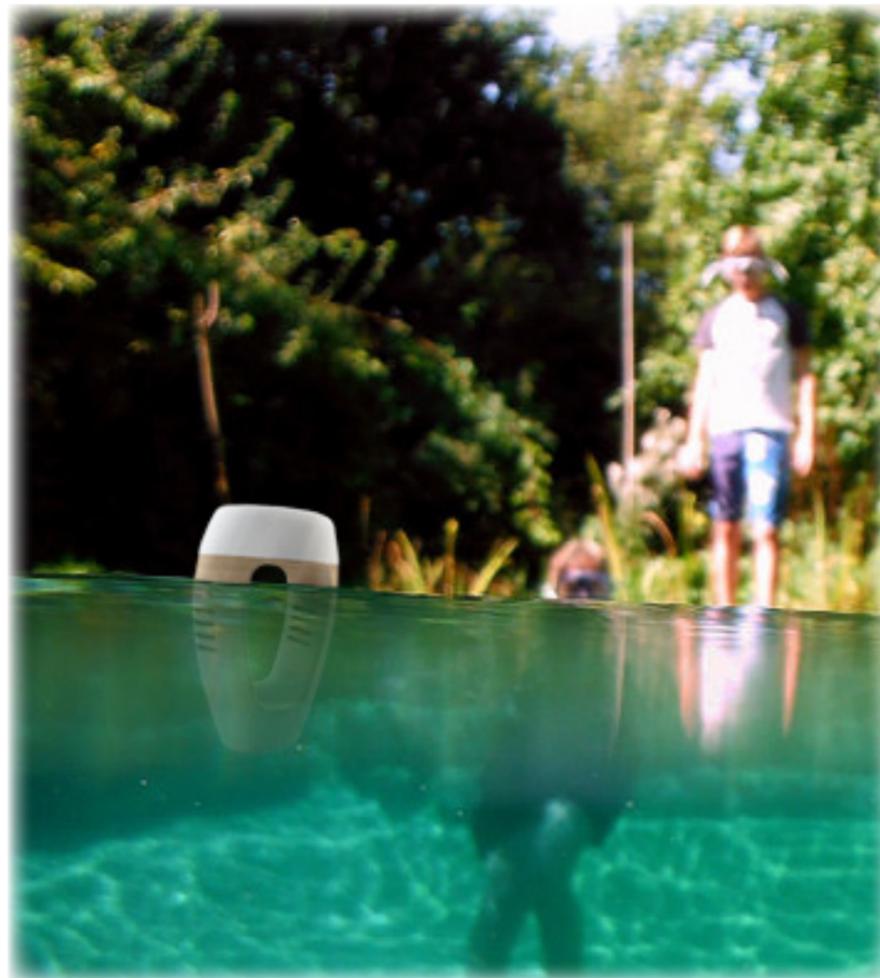
-Marketing:

- Price from €20/month
- Starting in W-Europe (Germany) expansion to S-Europe



Video

<https://www.youtube.com/watch?v=7oC3787vM28>



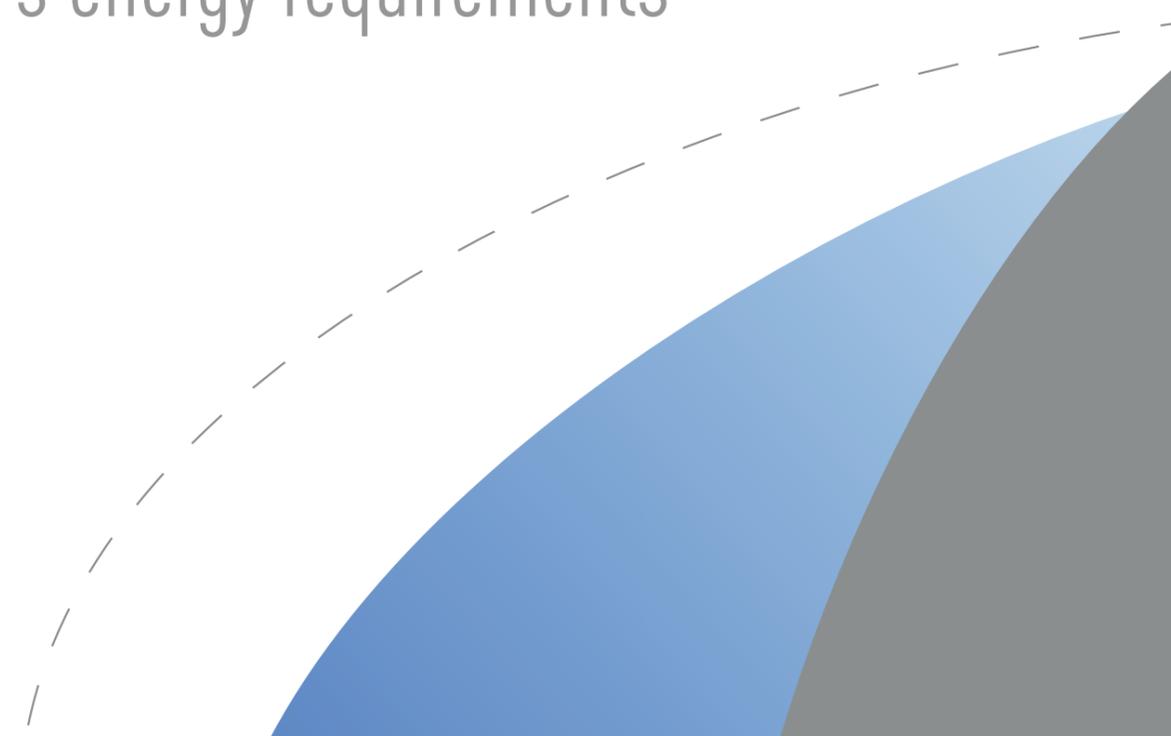
Conclusion

-To sum up:

- Ongoing teamwork and high collaboration
- Successful development of the user friendly buoy and application

-Future development:

- Development of a professional mobile application
- Upgrade of the solar panel to fully meet the buoy's energy requirements
- Reduction of the dimensions of hardware
- Expansion variety sensors (pH & oxygen)



Questions?

