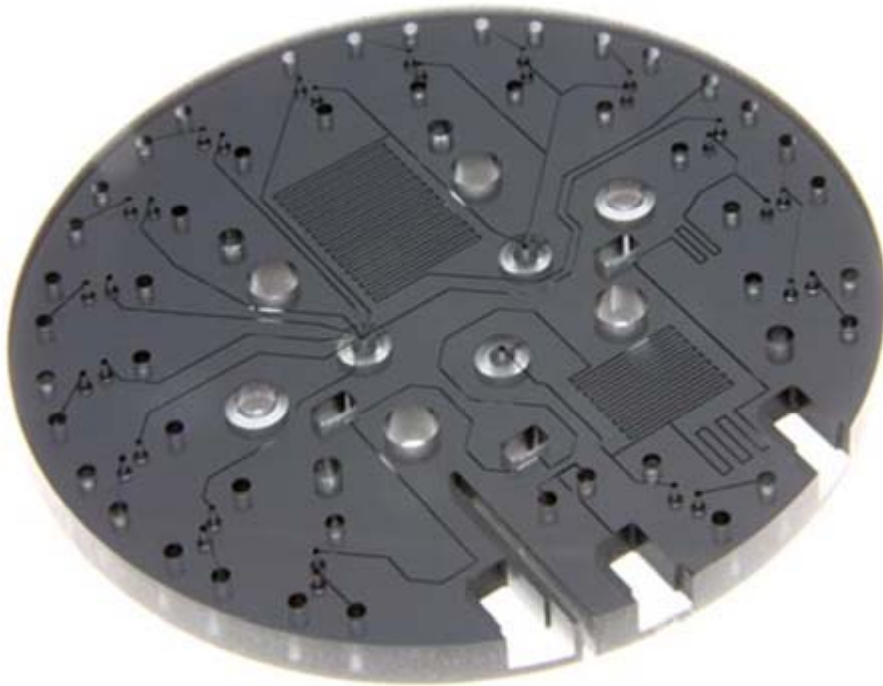


Original Nitrate/Nitrite Design



100 mm



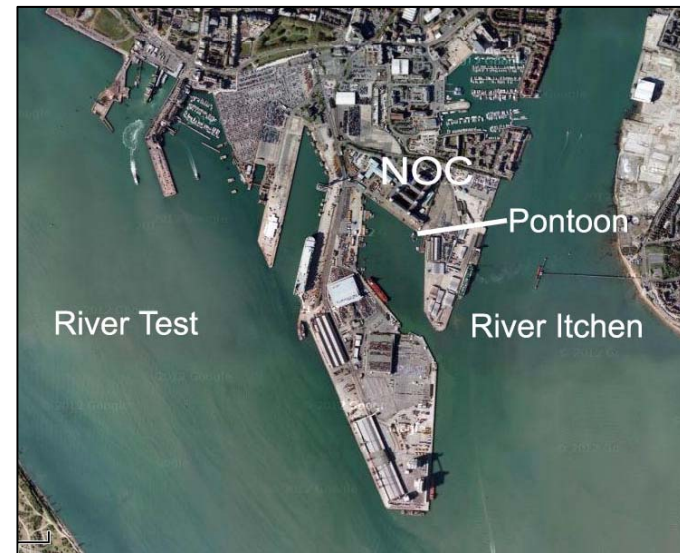
Deployment in Southampton Water



Housed sensor



Pontoon outside NOC Southampton

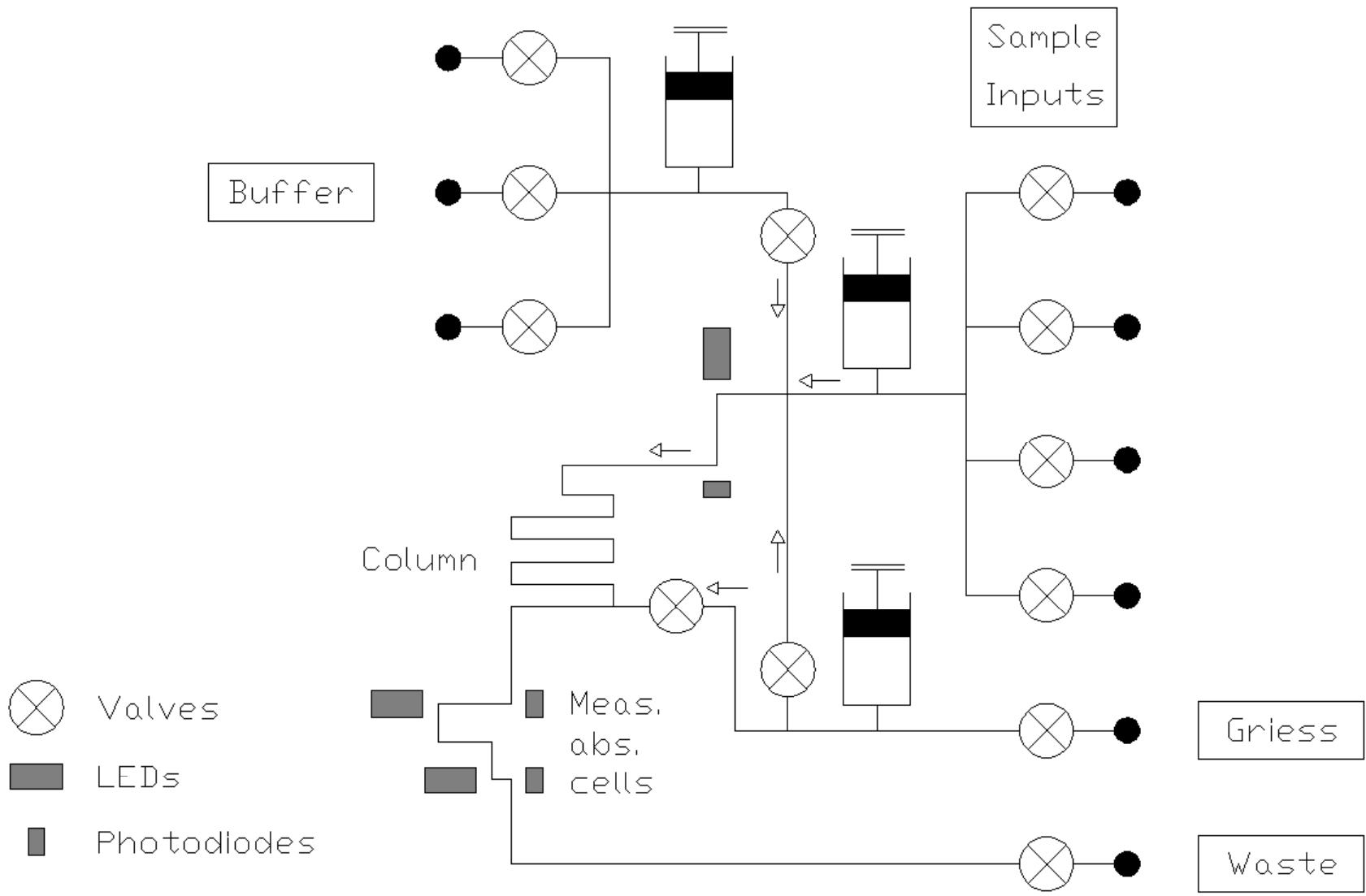


Deployment area (Google Earth)

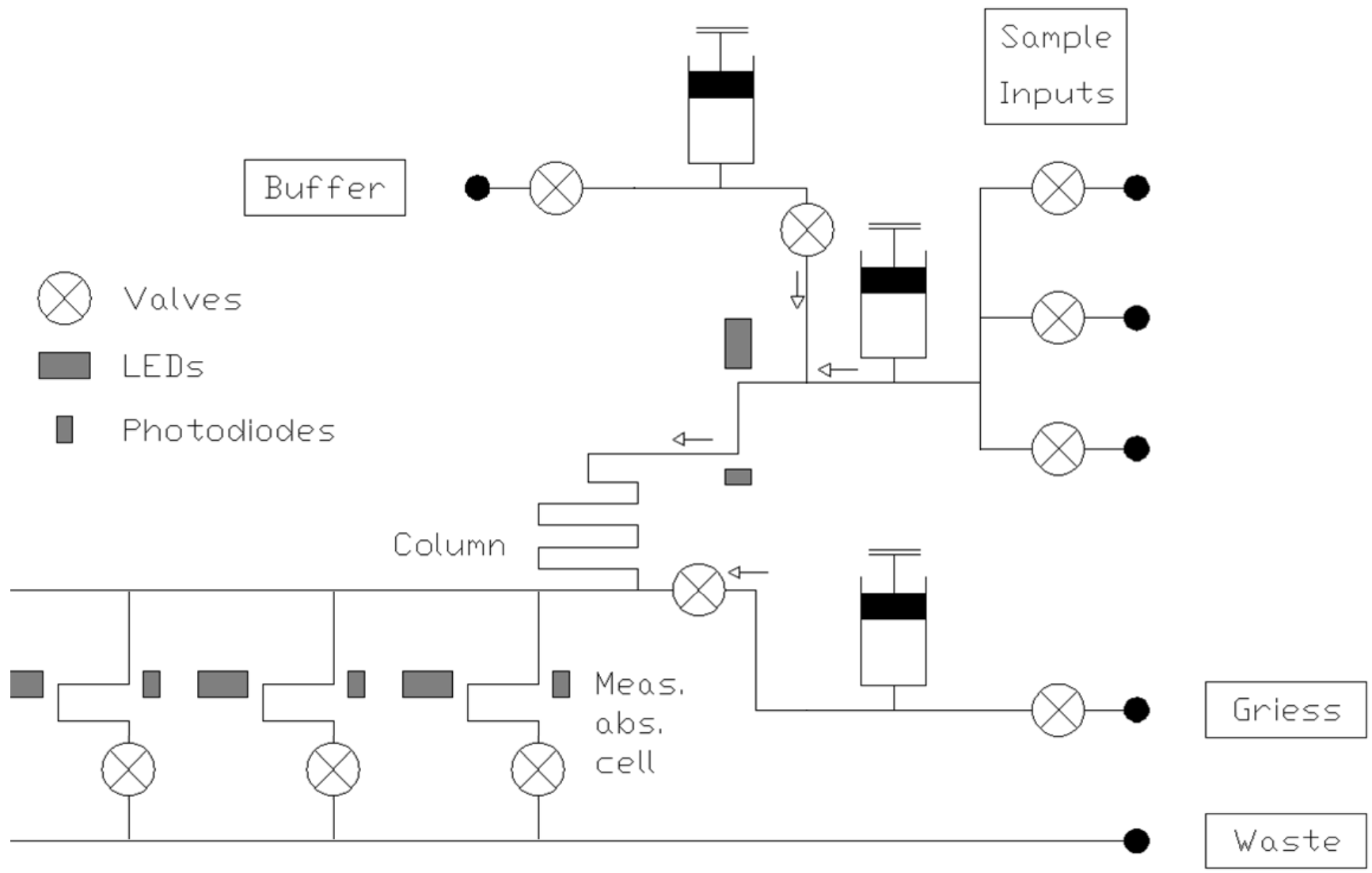
Gliders Requirements

- 2 Sensors must fit onto a single iRobot 1KA Seaglider
 - 20 litre payload, 300 mA current @ 10 V per sensor
- 1 Sample every 4 min 30 seconds
- 1000 samples per service interval
- Nutrients – total Nitrate and Phosphate
- Total sensor cost of less than £20,000

Original System Layout



New System Layout



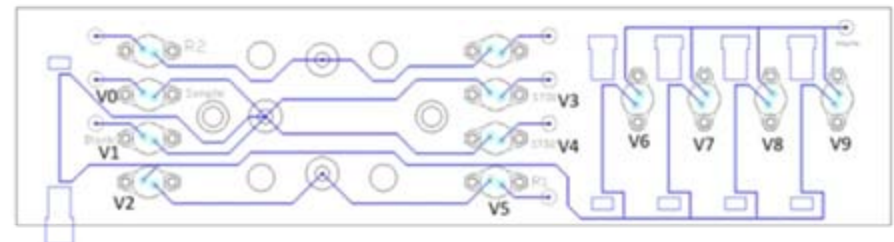
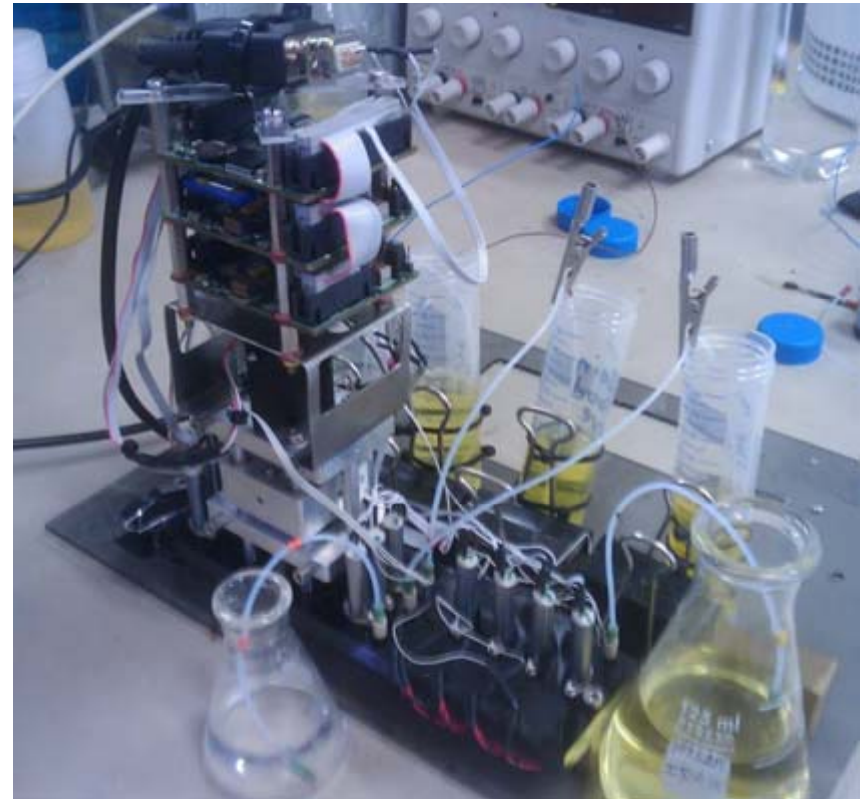
Bench Prototype

Nitrate

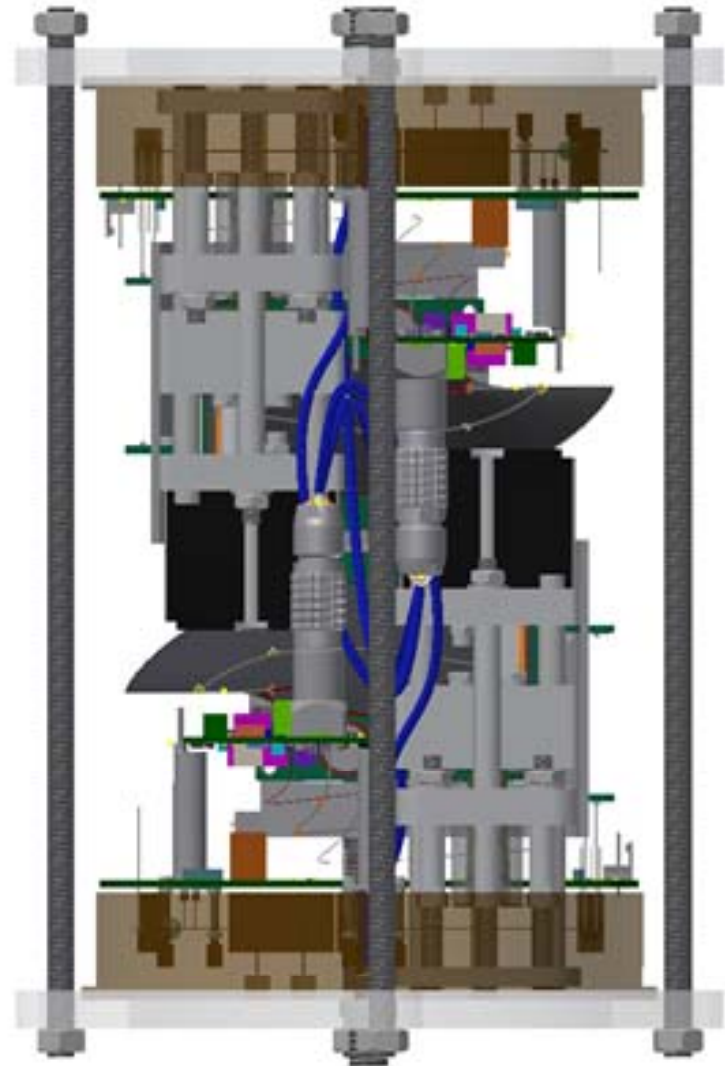
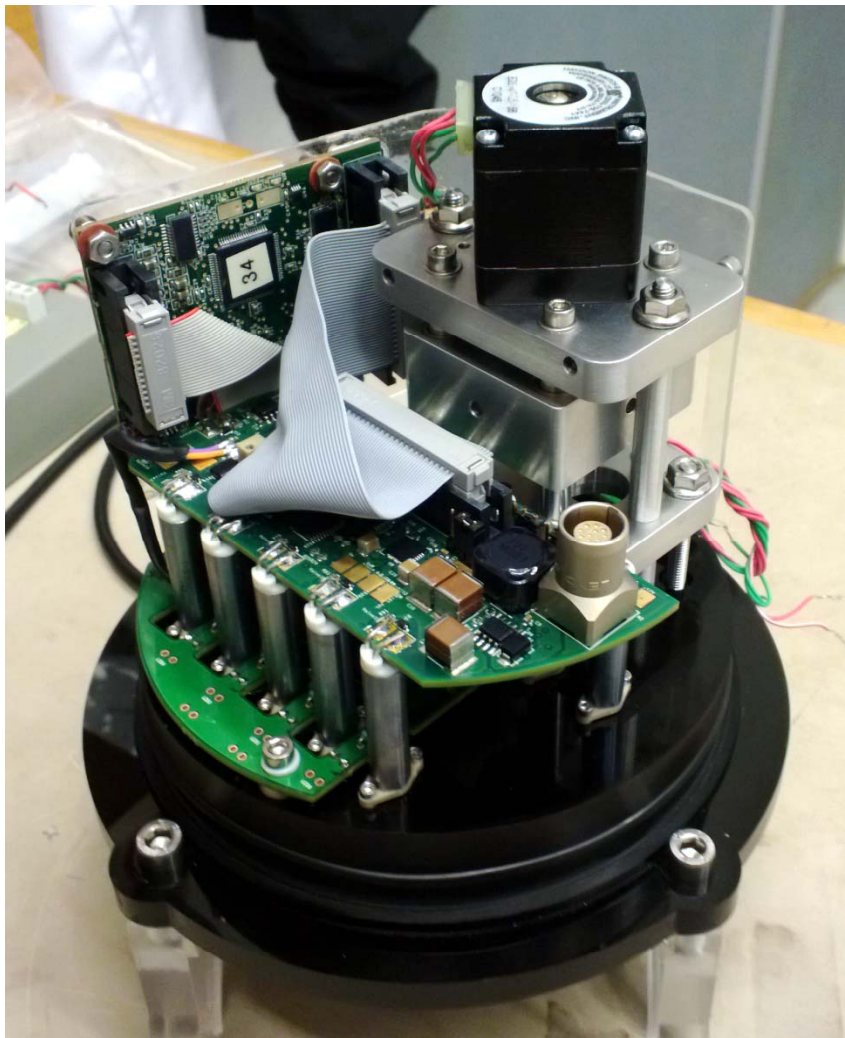
- 2 min 30 seconds per sample and blank
- Limit of Detection 300 nM
- Range 300 nM to 350 mM

Phosphate

- 4 minutes per sample and blank
- Limit of Detection 100 nM,
- Range 100 nM to 100 μ M
- Ran 1000 samples without servicing



Two Sensors in One Housing



Mounting in the Glider

