National Oceanography Centre

FROM COAST TO DEEP OCEAN – MAKING SENSE OF CHANGING SEAS

Collaborating with Industry

Monitoring the marine environment

SENSOR DEVELOPMENTS

Monitoring the marine environment is important to BP. After discussions between NOC's sensors development team and BP's Environmental & Social Responsibility Team a project was formed to develop two types of sensor targeted at two key parameters of marine conditions.

pH - Precise pH measurements are needed to assess ocean acidification and related effects.

PAH (Polyaromatic hydrocarbons) - A key indicator of hydrocarbon discharges from both natural sources and as a result of oil and gas exploration and production.

This project is constituted in two main parts:

- Proof of concept study of synthetic aptamer sensor technology, and to demonstrate this for PAH detection and quantification in the laboratory.

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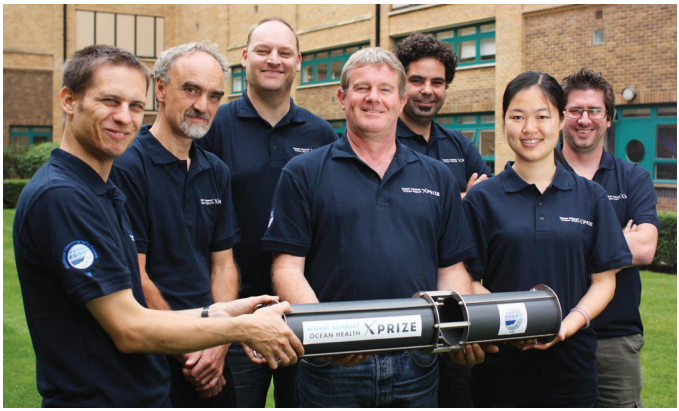
- to develop existing and proven *in situ* lab-on-a-chip technology for deployment in deepwater settings which will be demonstrated with application to pH determination.

The pH system was successfully re-designed from a bench top system (with a micro fluidic core) into a fully *in situ* system over a six month period.

This *in situ* system has been entered into the Wendy Schmidt Ocean Health X-prize in August 2014 and has successfully moved onto phase 3.



To talk to us about ways of working together contact: business@noc.ac.uk