

PML | Applications

Applied science for the blue economy

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About Us



Dr Tom Vance,
Chief Executive Officer
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"Our team focuses on helping clients reduce environmental impact and better understand the marine environment they operate in."

PML Applications is a marine environmental consultancy, comprised of four centres of excellence, providing scientific research, consulting, and training services.

Our team of driven, positive people are commended by our clients for their close attention to detail and work ethic.

We work on a commercial basis with a range of private, public, and defence organisations, both in the UK and overseas.



PML Applications gift aids profits to PML (Plymouth Marine Laboratory) to support their charitable research objectives.

Centres of Excellence

CMBC

Centre for Marine Biofouling and Corrosion

Impartial testing and validation of biofouling management and corrosion prevention technologies.

CCT

Centre for Coastal Technologies

Independent, impartial, environmentally responsible testing of coastal marine technologies, including autonomous vessels.

CES

Centre for Environmental Solutions

Leading environmental and ecological experts. Services include surveys, sample analyses, evidence reviews, and R&D support.

CGA

Centre for Geospatial Applications

Earth observation data products, data visualisation, and analysis - actionable insights from local to global scale.



Centre for Marine Biofouling and Corrosion

Anna Yunnie,
Principal Consultant
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Our Centre:

CMBC provides our clients with easy access to harsh marine environments to support the validation and development of biofouling and corrosion control technologies under characterised real-world conditions.

Our Services:

- In-water cleaning test centre
- Antifouling testing, research and development
- Corrosion prevention technology research and development
- Marine biosecurity

Standard Testing:

- Antifoul coating efficacy testing
- In-water cleaning efficacy, damage and capture testing
- Electrochemical corrosion testing (e.g. OCP, EIS, LPR) and real-time real-environment biocorrosion testing
- Analysis of biocides, paint particles, and physical coating parameters
- Algal and invertebrate settlement assays
- Biosecurity plans, monitoring and surveys

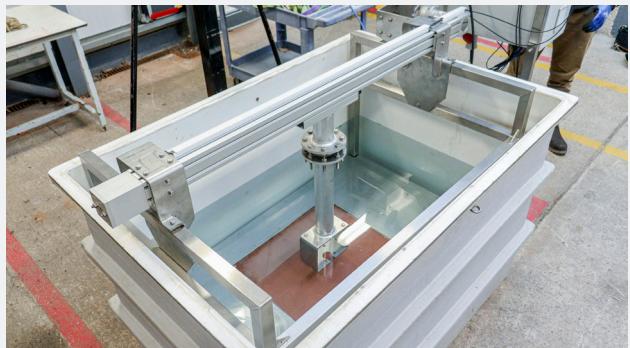


Facilities and Capabilities

Dynamic Test Raft: six motorised test rigs used to simulate vessel operating profiles (speed and duration) and test multiple coatings side by side. Each motorised rig can be modified for any bespoke trial, such as wear testing.

Choice of test substrates: steel panels, PVC drums or small coupons. Multiple test platforms and rigs, including dynamic rigs, large static rafts in high fouling locations, and an in-water cleaning rig with a range of attachments. Capability and expertise to design and fabricate bespoke rigs.

Real-time material testing in marine environmental conditions, with integrated biofouling analysis and expert microscopic analysis of corroded/degraded samples. **Electrochemical corrosion flume tank testing** to simulate flow conditions. Bespoke material selection tests, considering use cases & environmental conditions.



Centre for Coastal Technologies

Sam Fawcett, Manager of the
Centre for Coastal Technologies
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Our Centre:

CCT is an expert centre for independent, impartial, environmentally responsible testing of coastal marine technologies such as mCDR (marine carbon dioxide removal). Facilities and expertise include vessels and autonomy.

Our Services:

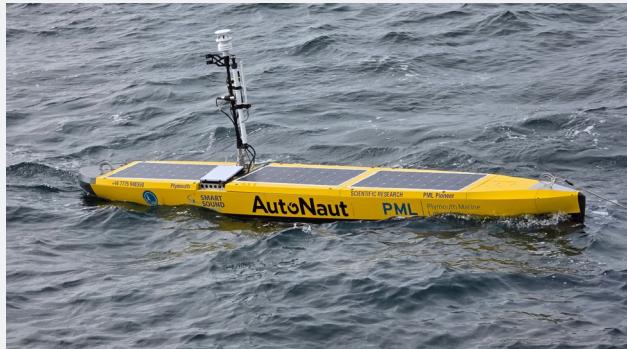
- mCDR (Marine Carbon Dioxide Removal)
- Autonomy and technology trials/testing
- Marine deployment and recovery
- Sensor and instrument testing and validation

Our Facilities:

- Smart Sound Plymouth
- Workshops
- Oceansgate (Freeport, workshop, office, etc.)
- *RV Plymouth Quest* (21m Cat 2 workboat)
- *PML Explorer* (7m Code 3R Rigid Inflatable Boat)
- High-performance computing
- Mesocosm

Facilities and Capabilities

In-water deployment and recovery services, including autonomous vessel deployment and testing. Licensed to use open-water sites for trials and testing, providing commercial access to Smart Sound Plymouth infrastructure and facilities.



Access to facilities and vessels, including the *RV Plymouth Quest* - a Category 2 workboat fitted with winches, crane, and scientific equipment.



Access to high performance computer modelling and experimental facilities for model validation.



Centre for Environmental Solutions

Dr Dimitrios Kaloudis, Manager of the
Centre for Environmental Solutions
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Our Centre:

CES provides high-quality, bespoke services in the areas of natural capital, marine net-gain, nature-based solutions, marine surveys, eDNA, and big-data analysis, with commercial access to cutting-edge marine science and facilities at Plymouth Marine Laboratory.

Our Services:

- Ecosystem services and natural capital
- Marine spatial planning and decision support tools
- Marine net gain, restoration and feasibility studies
- Marine surveys
- eDNA analyses and method development
- Biodiversity/taxonomic identification
- Ultra-low detection nutrient analysis

Our Facilities:

- World-class laboratory facilities (eDNA, microplastics, nutrients, microbiology)
- Coastal and in-shore survey vessels
- Drone, ROV, and LiDAR
- High-performance computing facility



Facilities and Capabilities

Marine survey planning, data collection and sample analysis, including water, pathogens, eDNA, nutrients, benthic fauna, plankton, and biotope. Coast to continental shelf capabilities with drones, vessels, ROVs, and satellite.

Natural capital, ecosystem services, and blue carbon valuation and consultancy by leading experts. Marine spatial planning and habitat assessments, development of decision support tools, and guidance. Development and assessment of nature-based solutions for biodiversity net gain, blue carbon, and ecosystem services.

Advancing eDNA as a tool for monitoring biodiversity, combining molecular and classical ecology expertise to provide robust quality control and rich context. R&D and consultancy to optimise quality, repeatability, and cost.



Centre for Geospatial Applications

Ben Calton, Manager of the
Centre for Geospatial Applications
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Our Centre:

CGA delivers data products, software, and tools to draw actionable information from satellite Earth observation data.

Our Services:

- Earth observation data processing and product generation
- GIS tools and analysis services
- Software for data visualisation and analysis
- CORDIAL – an integrated data catalogue and analysis platform

Our Facilities:

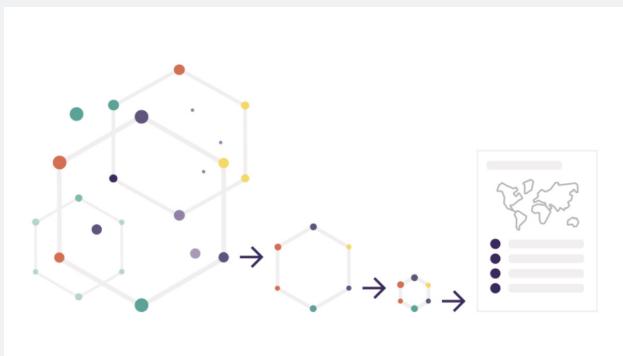
- Complete archive of Earth observation satellite data - optical and radar data from multiple ESA and NASA missions covering the last 30 years
- Rapid access to near real-time imagery
- Access to very high-resolution data from commercial providers
- Expertise with all major cloud computing providers, delivering access to scalable infrastructure

Digital Products: CORDIAL

Solve your Earth observation needs with a bespoke CORDIAL package, using the data explorer and analysis environment. Plus access to technical & scientific support.

Use the searchable data catalogue, analysis hub, explorer, and GIS to find and extract meaningful data. The storage cloud allows you to process large volumes of data without need for local storage.

CORDIAL has a user-friendly interface and an editable Python code workspace. Plus an integrated detector and alert system based on defined thresholds with secure data downloads.





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