

## Using titanium metal for an ocean going vessel in aggressive marine environments.

Earthrace Conservation run local conservation campaigns, mostly with Volunteers, in various countries. These involve the protection of endangered species, Beach Cleanups, School Outreach Programs, Public education or Rallies (<http://earthraceconservation.org/>).

Their current campaign will allow them to build an ocean-going vessel (ER2) to support their global campaign for marine conservation.

A previous student project was successful in investigation of titanium metal used in a marine environment. Titanium metals are naturally corrosion resistant and have superior strength to conventional metals. To build on this work it is being suggested that a number of other components could also be developed for the same vessel.

In conjunction with the course requirements the project requires;

- a literature review to determine how and where titanium is currently being used in marine vessels
- what if any international standards are required to be met for component use international waters
- a design and development strategy for any potential components
- a number of prototype parts to be produced through both virtual and physical methods

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Industry supervisor: Pete Bethune, CEO, Earthrace Charitable Trust.