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# The atomic superyacht on a voyage to save the planet

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#### By lan Taylor

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#### PLANET EARTH



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What you're looking at is a nuclear-powered research vessel that's the size of a cruise ship and packed with 22 laboratories. It's being built by a crazy entrepreneur with a shade of Tony Stark about him and when it launches in 2025, the ship will carry 450 people, including scientists, environmentalists and the odd billionaire on voyages to study the climate.

The Earth 300 is hugely ambitious but that's exactly the point, according to the man behind it. Aaron Olivera wants to build an awe-inspiring object that will galvanise public interest in <u>climate change</u>. He describes it as this generation's Eiffel Tower or the Olympic Torch of global science.

"It has been designed to capture peoples attention but also their hearts and imaginations," Olivera told *Science Focus*. "If we want to make big, bold changes we need everybody's help, and we mean everybody, all ages, backgrounds and even all types of intelligences."

The vessel will be almost 300m long and feature a 13-storey 'science sphere'. Olivera wants to bring together an Avengers-style team of scientists working in a range of disciplines to collaborate on new climate solutions, with state-of-the-art technology to help them.

Equipped with built-in sensors, <u>artificial intelligence</u>, robotics, machine learning and real-time data processing, the ship will also house the world's first commercial, ocean-going quantum computer to handle the vast amounts of data it collects. Olivera says Earth 300 will be open-source, its information shared with other climate scientists.

#### Read more about climate solutions:

- Why a carbon tax could be the answer to climate change
- Can planting billions of trees tackle climate change?
- Could geoengineering cause a climate war?

It will also be zero-emission, powered by <u>atomic energy</u> from an onboard moltensalt reactor. Described as an atomic battery pack, it's based on technology created by TerraPower, a 'nuclear innovations' company set up by Bill Gates.



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### PLANET EARTH

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"At present, both quantum computing and a molten salt reactor have never been installed on a ship," Olivera said. "Both will need an extreme level of engineering to get to that stage. Then we can talk about the fact that this ship will have no less than a million sensors on it. It will essentially be built as a floating computer and that will be challenging."

None of this technology comes cheap, of course. Earth 300 executives believe the ship will cost between £350-500 million to build. Private investment and a number of partnerships are helping to fund the project, but VIP tickets will also be sold to wealthy tourists. For £2.2 million (\$3 million), you can purchase a 10-day VIP cruise on the ship, staying in luxurious quarters with front-row seats to game-changing science.

Olivera and his team believe that radical thinking is needed to invigorate new research and new interest in climate change, and the survival of life on Earth. While Elon Musk and Jeff Bezos aim for the Moon, Mars and beyond, Olivera is focusing his efforts here on the blue planet.

"We are living at a pivotal moment in human history and facing the greatest challenge to our civilisation since the dawn of humankind," Olivera said. "But we also live at a time where we have access to the talent, the tools and the technology to address any significant challenge. We saw no reason to not think big, we wanted to wake up the world and bring a new awareness that allows us to see ourselves as biospherians where we can come together and solve any problem."

## **Big Ideas For A Huge Problem**

#### Flood the deserts

Silicon Valley firm Y Combinator has a radical but untested idea: flood desert basins with water and use the intense heat they're exposed to to create huge algae farms that soak carbon from the atmosphere. They could also potentially create new ecosystems from previously uninhabited land.

#### Block out the sun

...sort of. Geoengineering projects have long been considered as a last-gasp solution to climate change but now Harvard scientists are conducting a feasibility study into stratospheric aerosols designed to lower global temperatures by reflecting solar energy back into space.



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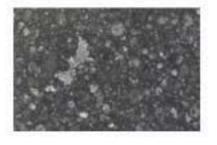




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#### Shoot for the Moon

If all else fails, scientists from the University of Arizona want to create a biological insurance policy for life on Earth. An 'ark' with sperm, ova, seeds and spores from 6.7m species would be sent to the Moon and stored in a solarpowered repository. If required, they could be used to repopulate the planet after a cataclysmic event.





The sea

A former deputy editor at Science Focus, Ian once undertook a scientific ranking of the UK's best rollercoasters on behalf of the magazine. He is now a freelance writer, which is frankly a lot less fun.





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