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HIGHLIGHTS FROM ROUND THE WORLD RECORD ADVENTURE

Earthrace and her crew have been officially named as world record holders by the Union International Motonautique (UIM).

The worldwide governing body for powerboating have confirmed that the team broke the ten year old round the world speed record previously held by British boat, Cable & Wireless Adventurer, smashing the record by almost two weeks.

The wave-piercing trimaran began the challenge from Sagunto, Spain at 13.35GMT on 27 April 2008. She travelled 23, 497 nautical miles, through the Panama and Suez Canals, with ten other refuelling stops around the world. The journey, skippered by Earthrace founder, New Zealander, Pete Bethune, took 60 days 23 hours 49 mins (1,463 hours, 49 minutes) finishing back in Spain.

On Friday 27th June 2008, Earthrace crossed the finish line in Sagunto at 13.24 GMT, breaking the world record by almost 14 days.

The following is a short précis of her epic journey around the world.

Day 1: Leaving Sagunto 27 April 2008

On leaving Sagunto, the crew discovered they had left behind all the fresh food meant to last them the first leg to the Azores so start their journey on dried food only.

Day 2: Steering Problems

Earthrace crew discover problems with auto pilot and are steering by hand to the Azores. This is easy at slow speed, but at 25 knots, it is very difficult. The crew run two on watch that night through 1-2 metre waves.

Day 4. Arrival in the Azores

Crew discover a blockage in the lift pump of starboard engine. This limits fuel supply so they are running the engine at about 60% capacity, slowing the boat down.

Earthrace arrives in the Azores at around 08.00 GMT and leave again at 12.30GMT, a very fast refuelling stop.

A fuel leak is discovered en route to Puerto Rico. Luckily it's biofuel which is completely harmless. Just as well as it is two inches deep in the sleeping quarters. Using the SGS supplied mini-jack as a wedge, and a couple of pieces of wood, the crew succeed in blocking the fuel leak.

Day 6: Battling the waves across the Atlantic

There were supposed to be trade winds on this leg to Puerto Rico but instead encounter head and near head seas, with Earthrace's wave-piercing capabilities being tested to the limit. Bob McDavitt, our weatherman in New Zealand, who sends daily updates direct to the boat, suggests new coordinates taking the boat further south before starting the run into Puerto Rico.

Day 8: A plumbing problem

The toilet on Earthrace is blocked two hours out of Puerto Rico. A quick repair job is required but most of the crew decide to hold on until they reach port two hours away.

Day 9 Frozen food delays fuel arrival

All the biofuel for the record attempt is being supplied by SGC Energia, a company in Portugal. But it all has to be transported by ship to every different refuel stop (offsetting carbon emissions for transport along the way of course).

This particular consignment for Puerto Rico was on a Maersk ship, also carrying frozen food, whose refrigeration system failed. So the ship was diverted, meaning no fuel in Puerto Rico. Luckily, a local company stepped in and worked to make a totally new batch of biofuel to re-stock the Earthrace tanks. This cost the boat about 28 hours' delay before they could set off to the Panama Canal.

Day 12: Injury to crew member and delays in Panama

It's peak season at the Panama Canal and there is a huge backlog of vessels waiting to pass through. Crew member, Mark Russell (UK), badly injures his foot, jeopardising his place on the boat. Many stitches later in the local hospital and he is back on board, but the boat is still waiting for permission to jump the queue.

Day 13: Panama Canal Authority speed Earthrace through Canal

The Panama Canal Authority ensured a swift journey through the canal for Earthrace, which completed its 12 hour transit at 20.30hrs/20.30 local time on Saturday (10 May). The boat then moored at Rodman's Dock awaiting refuelling on Sunday morning, as local licensing restrictions forbid refuelling during the night. Earthrace ready to set off on the next leg of its journey to Mexico on Sunday afternoon, guided by a pilot boat.

Day 18: Mexico Magic

A great refuelling stop in Mexico of 3 hours and 15 minutes makes up for delays in Puerto Rico and Panama.

Day 20: San Diego

A refuelling stop of around six hours, including allowing time for Tino de Freitas, Earthrace engineer, to check the Cummins engines before the boat sets off for Hawaii, the next stop.

Day 22: Net problem

In the middle of the night in the middle of the Pacific, the boat starts to vibrate strongly. If this is an engine problem, it could mean the end of the record attempt as there is no help anywhere nearby. Then the crew spot a four-metre piece of netting dragging behind it. Skipper Pete Bethune, puts on his Andaark dive gear and disappears beneath the boat. The net is tangled in the propellers but is removed by Pete quickly and the boat carries on towards Hawaii.

Day 23: Call to Arnold Schwarzenegger from Earthrace

The boat has been powering through the Pacific at an average speed of 20 knots. It's the longest leg so far. But it's exhausting for the crew as they have to steer through a giant rubbish dump the size of Texas that sits in the middle of the ocean, made of plastic and polystyrene.

The current that passes down the West Coast of America picks up rubbish and debris (including old take-away coffee cups) along the Californian coast, and then drags them all the way out here, a thousand-odd nautical miles away. The current here then drops under the surface, leaving behind all the rubbish. It joins the giant Californian rubbish dump that remains here year after year, and gradually increases in density as more rubbish drifts in.

Skipper Pete Bethune says, "the majority of Americans living in California probably don't even realise it's there. What is needed is someone influential, like Arnold Schwarzenegger, to do something about it!"

Day 25: In and Out

The Hawaii port stop is our quickest ever – 1 hour and 50 minutes.

Day 26: Trouble with a fuel line

The bilge is awash with biodiesel and the engine bay is in a deep fog. There is biodiesel gushing out from the main line that takes fuel from the high pressure pump to the system. The crew shut down the port engine, and the ground crew start trying to arrange for a spare to be waiting at the next refuel stop in the Marshall Islands. But the boat is still managing 15-16 knots even on one engine.

Day 30: Repairs in the Marshall Islands

The ground crew had found a continental flight that was willing to drop off the spare part with the boat mid-ocean, but they couldn't get through to the crew on the radio. Instead, the part was sent all the way from Perth in Australia, in time to meet the boat in Majuro in the Marshall Islands.

On Earthrace we run a special non-toxic, Teflon-based product from PPG, and it is heaps better on the environment, while also giving us really good boat speed. But the downside is that it does allow some algae and barnacles to grow on the hull. Skipper Pete Bethune takes advantage of the time spent fitting the spare part to scrub the hull.

Most boats permanently in the water use toxic anti-foul under the waterline to prevent marine life taking hold. Some are iso-cyanate based (cyanide) and leach chemicals into the waterways. Others use heavy metals that ablate off, but the end result is still more toxins in the water. The results show up in densely populated marinas where shellfish start mutating into all the same sex, and on resident fish species with questionable growths and deformities.

"The trouble is most boat owners know nothing of the type of anti-foul they have on their vessels, let alone the impact it has on the environment. Ignorance is bliss I guess," said skipper Pete Bethune.

Even with the repairs, the hull cleaning and refuelling, the boat was in and out of Majuro in only four hours en route to Palau, now back on two engines.

Day 34: Sea debris disaster

Earthrace has a great stop in Palau and is heading out in the wake of the pilot boats when she hits some sea debris which damaged the port propeller. The boat limped back to port where the propeller was removed and the drive shaft tested. The shaft has been bent and will require complete replacement in Singapore.

The boat is now continuing to Singapore on one engine, whilst the ground crew is doing everything in its power to find a shipyard and facilities to repair the boat.

Her reduced speed of 14-16 knots will still maintain her lead on the current record on this leg, but a speedy repair in Singapore is essential. The crew also face the risk of travelling through notoriously pirate-infested waters on this leg, and with only one engine the boat cannot run at full speed and so may become a target for opportunistic attacks.

Day 37: A long, nervous night

Local fishermen around Borneo tow whole logs out into the Sulu and South China seas to act as fish aggregation devices. These just drift around for months, eventually forming dead heads, where the branch end sinks, exposing an old stump above the surface.

During the day these are fine, as you see them way off and navigate around them. But at night, it is really hard to detect them so it's a long night for the crew, especially as they are still on one engine.

Day 40: A miracle in Singapore

It's after 08.00 before the boat finally arrives into ONE°15 Marina in Singapore on 6 June. After a call out to everyone in Singapore asking for help to repair the boat, the ground crew and some local companies have worked a small miracle. A salvage company called POSH Semco has agreed to lift the boat out of the water, and another Singapore company, Assetton, has said they will pay for the new drive shaft.

Day 43: Leaving Singapore

After a huge effort by everyone in Singapore, Earthrace leaves for Cochin in India just three days after arriving in a terrible state thinking that even if they could do repairs, it would probably cost the team about two weeks.

Day 44: Monsoon and no weather warning

Earthrace relies on daily weather updates from New Zealand via Skymate. But there are a few places in the world where it's difficult for the system to deliver emails to the boat. There are huge 3-4 metre

waves crashing over the boat, and it's looking like they've hit the monsoon season with a vengeance. But they've no way of finding the best route to avoid the weather so have to put up with it.

Day 49: Vasco da Gama

Earthrace has arrived in Cochin, India, where Vasco da Gama from Portugal, the first person to circumnavigate the globe, died and was buried here. Even more appropriate, as our biofuel comes from Portugal too.

Despite all the repairs in Singapore, and the monsoon, which lost them around 1,500 miles of their lead against the current world record, they have a very quick turn around in Cochin, arriving at 14.30GMT and leaving after refuel, some engine mount and electrical work, at 17.45GMT. It hasn't broken their own previous fuel stop time record for Cochin but they're still quickly back on track towards Oman, 2,480 nm ahead of the current world record.

Day 50: An ominous forecast

The boat is receiving weather updates again and it's not good news. Bob McDavitt is predicting very strong winds and big seas for Tuesday and say, 'this will be the worst day of the entire voyage'. The challenge for Earthrace and the crew is to make it through the next few days with no damage.

Day 53: Safely into Oman

The boat and crew have survived some very heavy weather and arrive in Salalah, Oman on 19 June. It's another good stop. However, they will be battling against adverse weather conditions as they head up the eastern coast of Africa and later into the Mediterranean.

"We're so close to the end of the race that I can almost taste the world record," said Skipper Pete Bethune. "I have to keep reminding myself that we still have a lot to overcome. The weather isn't great – we've had to endure monsoon conditions and massive waves on our way to Oman – and passing through the Suez Canal could be tricky. There have been reports of a massive backlog of ships waiting to transit the canal – we managed to overcome the same situation in Panama, and it's vital we don't get delayed in Egypt."

Day 55: Where are you?

The boat is about 300 miles into the Red Sea when a call on the sat phone alerts the crew to the fact that the satellite tracking system is not working.

The website tracking has two transponders, one on the roof, and one on the horn. The roof one especially takes a real hammering. It was sponsored by a company called Daestra in New Zealand from the very start of this project, and has been beaming out our position for the last two and half years without ever missing a beat. The trouble is, every wave that comes over the top of the boat lands on it, and it seems it might have finally been damaged beyond repair.

At the same time, the crew on the ground and back at base are realising something is wrong too, as are the thousands of supporters who are now emailing the boat. We need to try and get a completely new system delivered in time to be waiting for the boat at the Suez Canal entry point.

Daestra in New Zealand are sending regular updates on her position manually so that ground crew and supporters can follow her, and somehow, on a Sunday, they also find a company in England, Satamatics, who have a new TracPlus unit available. The only problem is how to get it from the UK to Cairo in time to meet the boat.

As usual, everyone jumps to help and a colleague of one of the guest crew on board from Portsmouth drives hundreds of miles to collect the new unit, delivering it to one of the base crew waiting at Heathrow to catch a flight to Egypt. A six-hour flight and a two-hour taxi ride later and the new unit is in the hands of the ground crew awaiting the arrival of the boat later that morning.

Day 56: A blockage

The engine speed is dropping off and fuel burn is going up. After investigating, the crew establish that it's the lift pump, which will be difficult to repair – especially in the rough seas that they are experiencing. They travel on towards the Suez Canal at only 16 knots.

Day 57: Arrival in Egypt

It took three hours at sea to repair the lift pump, which has delayed their arrival to the start of the Suez Canal.

This is not good news as ground crew report that if they had arrived two hours earlier, thanks to Admiral Fadel, Chairman of the Suez Canal Authority, the boat had been/would have been cleared to travel straight through on arrival.

However, now she has had to wait until the next day, and even then, will only be allowed to go half way, having to wait until the following morning to finish the trip and start on the last leg back to Spain.

Day 58: Halfway through the canal

The boat waits overnight in Ismailya, halfway down the Suez Canal and 3,426 nautical miles ahead of the world record.

Day 59: On the way home

The boat emerges from the other side of the Suez Canal and heads across the Mediterranean back towards the finish line in Sagunto, Spain. This time round, good weather is on the horizon...

THE REST IS HISTORY!