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Belugas' Iceland refuge

AN OPEN-WATER sanctuary for two beluga whales is to open in Iceland next year - the first project of its kind.

The Sea Life Trust, a conservation charity, has spent six years hatching a plan to bring the 12-year-old belugas, named "Little White" (pictured) and "Little Grey", from captivity in China to an open-water refuge.

Last year, Klettsvik Bay in Iceland's Westman Islands, the location for the film *Free Willy*, was chosen as the site for a 32,000-square-metre sea pen that will house the whales. Building work has already begun and is expected to finish in March next year.

The Sea Life Trust says it has recently received the crucial authorisation to move the whales from Changfeng Ocean World in Shanghai, where they are still performing for visitors.

To prepare them for the move, the whales are now being introduced to equipment such as stretchers. They are also being trained to hold their breath under water for longer and to swim faster, so that they will cope better with tides and currents at the sanctuary.

The journey by land, air and sea from China to Iceland will take more than 35 hours. That will be a challenge for the whales, says Katrin Lohrengel at Sea Watch Foundation, who is not involved with the project.

"This is quite a long transport the animals will be undergoing. That has a lot of issues and stress related to it," says Lohrengel.

However, given the social nature of whales, having two of them may help the project succeed if the animals arrive safely, she adds.

First cannabis-based drug in US

IT TASTES of strawberry, but Epidiolex is the first drug approved in the US containing an ingredient from marijuana. The US Food and Drug Administration (FDA) approved the drug on 25 June for the treatment of two rare but severe forms of childhood epilepsy: Dravet syndrome and Lennox-Gastaut syndrome.

The active ingredient in the drug is cannabidiol, and it contains only a trace of the psychoactive component of cannabis, tetrahydrocannabinol, or THC. In clinical trials, Epidiolex proved effective at helping people with these conditions control their seizures.

FDA commissioner Scott Gottlieb warned that the organisation would continue to punish illegal marketing of cannabidiol-containing products with unproven medical claims.

The UK government last week announced a review into the possible use of marijuana-based medical products.

AI thrashes human gamers, again

AN ARTIFICIAL intelligence has beaten the world's top amateurs at one of the trickiest video games - but it needed thousands of years of practice to do so.

In *Dota 2*, two teams of five attack each other while defending their own base. The game has the largest prize money of any in e-sport.

To teach AI the game, US research lab OpenAI used a technique called reinforcement learning. In essence, the AI is thrown into the game

and learns through trial and error, by playing games against itself.

After playing the equivalent of 180 years' worth of games every day for 19 days, the AI was able to beat the top 1 per cent of amateurs at *Dota 2*. Later this year, OpenAI will pit the AI against the world's best players at The International in Seattle - the biggest *Dota 2* event.

AI has mastered games like chess and Go. But *Dota 2* is harder because the AI has to react in real time rather than taking turns, and has to make decisions without knowing everything the opponent is doing.

NASA takes aim at inbound asteroids

NASA is planning to design and test ways to destroy or deflect a hypothetical asteroid on a collision course with Earth. Three techniques could be used, depending on the size of the object and how much warning we have before it hits.

One idea is a gravity tractor, a heavy spacecraft that hovers near the asteroid so that its gravity can pull it off its course.

Another plan is to use a so-called kinetic impactor, deliberately crashing a spacecraft into the asteroid to change its trajectory. NASA will try this with its Double Asteroid Redirection Test mission, scheduled to launch in 2021.

A nuclear device could also be used to either deflect the object or blast it into small fragments that would burn up in Earth's atmosphere.

In a report last week, NASA said it plans to develop mission plans as well as carry out test flights to try out both the gravity tractor and kinetic impactor techniques on harmless near-Earth objects.



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