

# NASA shows off prototype spacesuit for journey to Mars

US Space Agency NASA has been showing off the wardrobe essentials for future astronauts looking for a new outfit for their first flight to Mars

NASA said the Z-2 spacesuit was only a prototype, but elements of it would be incorporated into the suit worn by the first humans to reach the Red Planet. The suit uses light-emitting patches and luminescent wire that could be customised to identify individuals.

The 'technology' design beat two others with 63 percent of a public vote of 233,431. The Z-2 will be built using 3D-printed parts, and 3D laser scans will ensure each suit fits each astronaut perfectly. It will be tested in vacuum chambers, at NASA's training pool and at a site

that imitates the rocky Martian surface. In 2012 NASA released the Z-1, which bore more than a passing similarity to the suit worn by fictional 'space ranger' Buzz Lightyear in the *Toy Stories* films. The first major overhaul of the spacesuit in about 30 years, the Z-1 was named as one of the year's best inventions by *Time* magazine.

NASA said, "Each iteration of the Z-series will advance new technologies that one day will be used in a suit worn by the first humans to step foot on the Red Planet." And the Z-2 'pays homage to the space-



Prototype spacesuit

suit achievements of the past while incorporating subtle elements of the future.

Its hard composite upper torso 'provides the much-needed long-term durability that a planetary extravehicular activity suit will re-

quire', but despite its 'aesthetic appeal' the prototype was not made of the same durable material designed to protect space-walking astronauts from micro-meteorite strikes, extreme temperatures and radiation, NASA added.

## China set to overtake US economy by some measures

**It is claimed Americans soon won't be able to boast 'We're number one' about their economy**

The World Bank has said China could pass the United States this year to become the biggest economy, measured in terms of its currency's purchasing power. It bases that on calculations that the currency — the Yuan — is actually much stronger than reflected by international foreign exchange rates. Interestingly, China's National Bureau of Statistics does not agree, even though it took part in the World Bank study.

It 'expressed reservations' about the study's methodology and 'did not agree to publish the headline results for China'. In non purchasing power parity terms, the US economy is still about 40 percent bigger than China's.

## Portugal is to exit its bailout programme without a credit safety net

**Portugal is to become the third European Union country to exit a bailout programme, following Ireland and Spain**

Prime Minister Pedro Passos Coelho made the announcement on Sunday evening saying, like Dublin he would not be seeking a credit line safety net from the European Central Bank when the financial programme ends later this month.

"May 17 2014 will go down in our history as the day for all Portuguese people, because without your strength we wouldn't have come so far. It won't be the day of any government or political party. May 17 will be your day," said Prime Minister Pedro Passos Coelho.

The decision comes after three years of deeply unpopular austerity measures which even now are not being repealed. However it follows last months successful return to the bond markets — Portugal's first auction since requesting a 78 billion-euro rescue from the EU and the International Monetary Fund.

Portugal's exit leaves just Greece as the only Eurozone country still in a bailout regime four years after it called for financial help in May 2010.



## Showing the invisible

**A new exhibition by Japanese artist Masamichi Kagaya attempts to show the normally invisible results of the Fukushima disaster as a series of print-outs representing the contamination**

The artist collected contaminated samples from Fukushima and transformed the analyses into auto-radiographs, visual representations of the radiation levels he found in the samples. The exhibition, at the Yasashii Yokan Gallery in Tokyo, Japan, is called *Image of Radiation from Fukushima*. But is it really art? Kagaya says his art simply shows scientific fact in any easily understood visual form.

Collecting the samples involved travelling into the exclusion area, as close as only 10kms away from the damaged Fukushima power plant, meaning Kagaya exposed himself to up to ten times the recommended levels of radioactivity. But he hopes that in the long term his work will be used in school text books and will become part of the historical legacy of the disaster.

## Tutankhamun's tomb replica will save precious original

**An exact replica of Tutankhamun's famous tomb has been opened in Luxor, Egypt, close to the 3,000-year-old original**

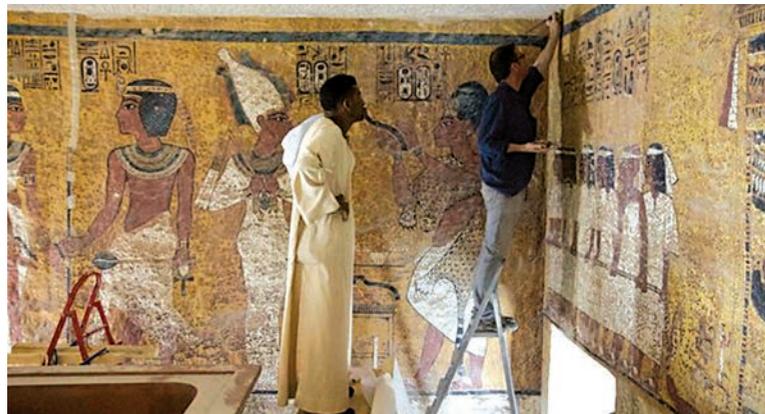
The original one has now been closed to visitors in order to preserve it, after decades of tourist visits began to cause damage. James Moran, the Head of the EU Delegation to Egypt, said, "It is absolutely unique. What they have done is to give tourists in the future a chance to visit a perfect, perfect copy of the original tomb. But they have also added things inside to let people understand better who Tutankhamun was, how the tomb was discovered. It's a little museum as well as being a tomb, and having seen the original myself three or four times, I cannot tell the difference."

The replica is said to be an extremely accurate and sophisticated copy. Making it involved measuring

100 million points in every square metre of the original tomb.

Madrid-based company Factum Arte used laser scanners to capture the texture, shape and colours of the tomb, before reproducing it with machine-operated blades, some of which were less than two-tenths of a millimetre wide.

The project's leaders acknowledge that visiting a replica will sound less appealing to many than seeing the real thing, but they hope that the facsimile, which is indiscernible from the original, will give visitors a better understanding of the tomb whilst preserving the original.



In the process of creation of replica of Tutankhamun's tomb

## Microsoft to help Windows XP users over browser bug

**Despite withdrawing support for Windows XP last month, Microsoft will help customers still running the outmoded system, amid a threat from hackers**

The computer giant says people continuing to use the software will receive an emergency update to fix a bug in its Internet Explorer browser.

Microsoft Corp. rushed to create the fix after learning of the bug in the operating system when cybersecurity firm FireEye Inc. warned that a sophisticated group of hackers had exploited the bug to launch attacks in a campaign dubbed 'Operation Clandestine Fox'.

It was the first high-profile

threat to emerge after Microsoft stopped providing support to its 13-year-old XP operating software on April 8th.

Microsoft was under pressure to move quickly as the US, UK and German governments advised computer users to consider using alternatives to Microsoft's Explorer

browser until it released a fix.

Microsoft first had warned that it was planning to end support for Windows XP in 2007, but security firms estimated that 15 to 25 percent of the world's personal computers still run on the version of the operating system that was released in October 2001.

Materials prepared with aid of information agencies