

Boeing astronaut ship stalls in orbit



MEXICO: The Boeing company is going to have to cut short the uncrewed demonstration flight of its new astronaut capsule.

The Starliner launched successfully on its Atlas rocket from Florida, but then suffered technical problems that prevented it from taking the right path to the International Space Station.

It appears the capsule burnt too much fuel as it fired its thrusters, leaving an insufficient supply to complete its planned mission. Starliner will now come back to Earth. A landing is expected at New Mexico's White Sands testing range on Sunday. The craft will use parachutes and airbags to make a soft touchdown on desert terrain. The Administrator of Nasa, Jim Bridenstine, said in a press conference that Starliner had experienced a timing "anomaly". This led the automated capsule to become confused over where it was in its mission sequence. The capsule then expended an excessive amount of propellant trying to maintain very precise pointing, or attitude.

Flight controllers recognised the problem but were unable to intervene quickly enough because the capsule was passing between satellite

links. Mr Bridenstine remained upbeat, taking the positives out of the day's events.

"A lot of things went right," he said. "This is why we test." The Administrator then suggested that had astronauts been in the capsule, they could have helped re-direct the craft to the space station. Nasa astronaut Mike Fincke, who has already been selected to fly on a future Starliner, agreed with this assessment. "Had we been on board, we could have given the flight control team more options on what to do in this situation," he said. Not since 2011, when the shuttles were retired, have Americans launched from their own soil; US astronauts have been hitching rides in Russian Soyuz capsules instead.

The Starliner, and another capsule called Dragon from the SpaceX company, have been developed to reinstate the capability. The business model will be different from the past, however. Instead of owning and operating the new capsules, Nasa will simply buy seats in the craft. And Boeing and SpaceX will also be free to sell any spare capacity to others - to other space agencies and commercial concerns.

The agency "seeded" Starliner and Dragon under its Commercial Crew Program (CCP). The companies were given milestone payments to encourage the development of their capsules.

The vehicles are late, however; they should have been flying in 2017. That they are still at the demonstration stage is due in part to Congress squeezing the amount of money Nasa could spend on the initiative. But also because of technical set-backs, such as the explosive destruction of a Dragon capsule on a test stand.

The SpaceX craft does look closer to entering service, though, after completing its own uncrewed trial in March. Whether Boeing will now have to repeat its test flight, going all the way to the station, before it can join Dragon on the "taxi rank" is uncertain. "I think it's too early to make that assessment," Mr Bridenstine said.

It's still possible Boeing and Nasa may decide to move directly to crewed flights. Mike Fincke's Nasa astronaut colleague on the upcoming Starliner mission will be Nicole Mann. "We are looking forward to flying on Starliner. We don't have any safety concerns," she commented. —AFP

World's oldest fossil trees uncovered in New York

NEW YORK: The earliest fossilised trees, dating back 386 million years, have been found at an abandoned quarry in New York. Scientists believe the forest they belonged to was so vast it originally stretched beyond Pennsylvania. This discovery in Cairo, New York, is thought to be two or three million years older than what was previously the world's oldest forest at Gilboa, also in New York State. The findings throw new light on the evolution of trees. What did they find? It was more than 10 years ago that experts from Cardiff University, UK, Binghamton University in the US and the New York State Museum began looking at the site in the foothills of the Catskill Mountains in the Hudson Valley. Since then, they have mapped over 3,000 square metres of the forest and concluded the forest was home to at least two types of trees: Cladoxylopsids and Archaeopteris. A third type of tree has yet to be identified. Palaeobotanist Dr Chris Berry from Cardiff University is a co-author of the study in the journal *Current Biology*. "This is the oldest place where you can wander around and map out where fossil trees were standing back in the middle part of the Devonian era." Researchers say they also discovered very long, woody roots that transformed the way plants and soils gather water. "It's a very ancient forest from the beginnings of the time where the planet was turning green and forests were becoming a normal part of the Earth's system," said Dr Berry. It's understood the forest was wiped out by a flood. The researchers have found fish fossils on the surface of the quarry. How does this help us understand the planet's past? The point in time that the fossil trees date to marks a transition between a planet with no forests and a planet that is largely covered in trees. Dr Berry says studying the site can give us a better understanding of how trees evolved and how they draw down carbon dioxide (CO₂) from the atmosphere. "We're well aware at the moment that having forests is a good thing and burning down forests and deforestation is a bad thing. —AFP

Facial recognition fails on race, govt study says

CALIFORNIA: A US government study suggests facial recognition algorithms are far less accurate at identifying African-American and Asian faces compared to Caucasian faces. African-American females were even more likely to be misidentified, it indicated. It throws fresh doubt on whether such technology should be used by law enforcement agencies. One critic called the results "shocking". The National Institute of Standards and Technology (NIST) tested 189 algorithms from 99 developers, including Intel, Microsoft, Toshiba, and Chinese firms Tencent and DiDi Chuxing. Amazon - which sells its facial recognition product Rekognition to US police forces - did not submit one for review. The retail giant had previously called a study from the Massachusetts Institute of Technology "misleading". That report had suggested Rekognition performed badly when it came to recognising women with darker skin. When matching a particular photo to another one of the same face - known as one-to-one matching - many of the algorithms tested falsely identified African-American and Asian faces between ten to 100 times more than Caucasian ones, according to the report. And African-American females were more likely to be misidentified in so-called one-to-many matching, which compares a particular photo to many others in a database. Congressman Bennie Thompson, chairman of the US House Committee on Homeland Security, told Reuters. —Reuters



Realme X2, realme buds air launched in India, internet shutdowns, whatsapp security bug & more news this week

DELHI: Realme X2 and Realme Buds Air launches were undoubtedly the biggest headlines of the week past, but that doesn't mean there weren't numerous other major pieces of news. LG brought its dual-screen LG G8X ThinQ smartphone in India, while the Nokia 2.3 was also launched in the country. While Vivo launched two 5G smartphones - the Vivo X30 and Vivo X30 Pro - while Delhi Police ordered an internet shutdown in parts of Delhi thanks to CAA protests. Read on for all the top news stories in the space of personal technology this week.

Realme X2 launched in India Realme X2 was launched in India on Tuesday. To recall, the smartphone was first announced for the Indian market alongside the Realme XT, and at that time, the upcoming phone was named the Realme XT 730G (thanks to it bearing the then recently announced Qualcomm Snapdragon 730G SoC). In the meanwhile, Realme launched the Realme XT 730G in China as the Realme X2 - now, it has arrived in India in the same avatar. Its flagship grade sibling, the Realme X2 Pro was launched in India earlier this month, but that features the Snapdragon 855+ SoC.

The Realme X2 starts from Rs. 16,999 (4GB+64GB) in India, with the

6GB+128GB variant priced at Rs. 18,999, and the 8GB+128GB variant priced at Rs. 19,999. The smartphone went on sale in India for the first time earlier this week, and the company has also detailed launch offers for the Realme X2.

Specifications of the Realme X2 include a 6.4-inch full-HD+ display, an in-display fingerprint sensor, the Snapdragon 730 SoC, up to 8GB of RAM, a quad rear camera setup (64-megapixel + 8-megapixel + 2-megapixel + 2-megapixel), a 32-megapixel front camera, up to 128GB of UFS2.1 storage that's expandable via microSD card (up to 256GB), the standard bunch of connectivity options, a 4,000mAh battery with support for 30W VOOC 4.0 Flash Charge tech, dimensions of 158.7x75.2x8.6mm, and a weight of 182 grams.

Realme Buds Air launched in India A launch that eclipsed the Realme X2 in terms of interest was a new product in the company's own lineup - the Realme Buds Air. The Apple AirPods-inspired truly wireless earphones feature a design very similar to the Cupertino giant's counterparts, and even come with a nearly identical looking charging case. One of the highlights of the wireless earphones are a claimed battery life of

17 hours on a single charge - including the extra charge provided by the charging case. Realme Buds Air wireless earphones are priced at Rs. 3,999, and are available in Black, White, and Yellow colour variant.

They went on sale for the first time on the day of their launch itself, and will next be made available tomorrow. Features include a 12mm bass boost driver, multi-layer composite diaphragm, noise cancellation support for calling, a dedicated gaming mode with low-latency, USB Type-C port, 3 hours of music playback with the charging case, support for the Qi wireless charging on the charging case, Google Assistant integration, touch controls, and Bluetooth 5.0 connectivity.

Vivo X30, Vivo X30 Pro launched The Vivo X30 and X30 Pro were launched in China this week, and both are 5G smartphones, running on Samsung's Exynos 980 SoC. The company is also touting a 'Multi-Turbo 2.5' feature, which selects 4G or 5G depending on its speed. Both smartphones come with a dedicated gaming mode with low-latency, USB Type-C port, 3 hours of music playback with the charging case, support for the Qi wireless charging on the charging case, Google Assistant integration, touch controls, and Bluetooth 5.0 connectivity. While Vivo X30 Pro is priced start-

ing CNY 3,998 (roughly Rs. 40,500) for its 8GB + 128GB variant.

Common specifications of the Vivo X30 and Vivo X30 Pro include a 6.44-inch full-HD+ display with an in-display fingerprint sensor, a Samsung Exynos 980 octa-core SoC, up to 8GB RAM, up to 256GB of in-built storage, options, a 32-megapixel front camera, a 4,350mAh battery with support for 33W Flash Charge tech, the standard set of connectivity options, dimensions of 158.45x74.10x8.80mm, and a weight of 196.5 grams. The only real difference between the Vivo X30 and Vivo X30 5G feature different rear camera setups, with the former sporting a triple rear camera setup (64-megapixel + 8-megapixel + 32-megapixel), while the latter bears a quad rear camera setup with a 13-megapixel periscope camera in addition providing 5x optical zoom. LG G8X ThinQ launched in India LG India reared its head in the country this week, launching its LG G8X ThinQ dual-screen smartphone. First unveiled at IFA 2019, the LG G8X ThinQ comes with a 6.4-inch detachable secondary display attached via the USB Type-C port and with a 360-degree hinge, as well as another 2.1-inch cover display to check

Met Office says warming trend will continue in 2020



LONDON: Next year will continue the global warming trend with temperatures again likely to rise more than one degree above pre-industrial levels.

According to the Met Office, 2020 will likely be 1.11C warmer than the average between 1850-1900.

The year ahead is set to extend the series of the warmest years on record to six in a row. Scientists say the strongest factor causing the rise is greenhouse gas emissions. Five things we've learned from Madrid climate talks Last decade 'on course' to be warmest El Nino's long reach to Antarctic ice. The world first broke through one degree above pre-industrial temperatures back in 2015.

Each year since then has seen temperatures close to or above this mark.

The warmest year on record is 2016 when a strong El Niño made a significant difference. This weather phenomenon sees sea surface temperatures increase in the central and eastern Pacific and it's associated with a range of impacts around the world, including the overall global level of warming.

According to the Met Office, the chances of a strong El Niño in 2020 are low. They forecast that the global average temperature next year will be in the range of 0.99C to 1.23C with a central estimate of 1.11C. The researchers say that the key factor will be emissions of CO₂ and other warming gases.

"Natural events - such as El Niño-induced warming in the Pacific - influence the climate system, but in the absence of El Niño, this forecast gives a clear picture of the strongest factor causing temperatures to rise - greenhouse gas emissions," said Professor Adam Scaife, the Met Office head of long-range prediction. On the rise According to researchers, carbon dioxide emissions this year have risen slightly, despite a drop in the use of coal.

The Global Carbon Project's annual analysis of emission trends suggests that CO₂ will go up by 0.6% in 2019.

The rise is due to continuing strong growth in the utilisation of oil and gas.

The scale of emissions has a direct bearing on temperatures, scientists say.

Provisional figures released earlier this month by the World Meteorological Organization (WMO) suggest 2019 is on course to be the second or third warmest year ever. If those numbers hold, 2015-2019 would end up being the warmest five-year period on record.

The Met Office says they have confidence in their prediction for 2020 based on what's happened in previous years.

This time last year they estimated that 2019 would be 1.10C above the 1850-1900 mark. The actual temperature recorded this year from January to October shows a global mean 1.11C.

The BBC Briefing is a series of

downloadable online guides to the big topics in the news. Check here if you want more context and facts about UK energy policy and the road to our net zero goals. Download the updated BBC Energy Briefing (10.4MB) (PDF, 10.4MB) "The forecast for 2020 would place next year amongst the six warmest years on record, which would all have occurred since 2015," said Dr Doug Smith, a Met Office research fellow.

"All of these years have been around 1.0C warmer than the pre-industrial period." With temperatures keeping close to the one degree mark, there will be renewed concern from scientists that the world is on track to breach the 1.5C limit that many researchers say is the threshold of increasingly dangerous impacts. 2020 will see a major push to get countries to ramp up their plans to ensure the world stays below the 1.5C mark. The recent COP25 summit in Madrid saw several key issues kicked down the road to Glasgow where countries from all over the world will meet next November. The critical issue of increasing ambition to curb emissions is set to dominate the discussions, which will be presided over by the UK.

The Committee on Climate Change has warned the government that Britain needed to do better to meet its own targets if it wanted to have credibility with negotiators in Glasgow. —AFP