

NEWSPAPER HIGHLIGHT

A Japanese weather satellite accidentally witnessed the 'great dimming' of the red supergiant star — Betelgeuse — that began in late 2019. The weather satellite, Himawari-8, observed a cloud of dust and a drop in the star's temperature by 140°C, offering important clues to what happened to the star.

Astronomers are worried about the impact of satellite 'mega constellations', such as SpaceX's Starlink Internet network. There are thousands of satellites already, and plans are in place to launch tens of thousands more. If that happens, at some latitudes and times of year, many 'stars' visible to the naked eye will actually be satellites and not stars.

Neptune and Uranus have much in common — they have similar masses, sizes, and atmospheric compositions — yet their appearances are notably different. At visible wavelengths, Neptune has a distinctly bluer colour whereas Uranus is a pale shade of cyan. Astronomers now have an explanation for why the two planets are of different colours. Using observations from the Gemini North telescope, the NASA Infrared Telescope Facility, and the Hubble Space Telescope, researchers have developed a single atmospheric model that matches observations of both planets. New research suggests that a layer of concentrated haze that exists on both planets is thicker on Uranus than a similar layer on Neptune and 'whitens' Uranus's appearance more than Neptune's.

A multidisciplinary team from the McMaster University, Toronto is working to make inhaled vaccines a reality. Fiona Smail, Professor of Pathology and Molecular Medicine, McMaster University, and a part of the multidisciplinary team, said that they are testing a next generation COVID19 vaccine that the earlier research in animals suggests will last longer, will be more effective and stand up well to future variants of the virus.

China has blocked efforts to step up protection of emperor penguins that are increasingly threatened by the effects global warming is having on their natural habitat in Antarctica, officials said on Friday. Dozens of

DURRAM WHEAT

1.The price of EU Durram wheat in the international Market is 39.5% higher than Indian wheat. Durum wheat (*Triticum turgidum*) is a variety of spring wheat, which is typically planted in the spring and harvested in the fall.

2.It is the second most cultivated species of wheat after bread wheat or the common wheat (*Triticum aestivum*). It is well adapted to the hot and dry conditions surrounding the Mediterranean Sea. Durum wheat grains can be ground into semolina - a type of coarse flour commonly used in pasta, including couscous.

3.They can also be used to make breakfast cereals, puddings, or bulgur, or ground into a finer flour to make unleavened bread or pizza dough.

USE AND FILE SYSTEM

1.The Insurance Regulatory and Development Authority of India (IRDAI) has decided to extend the 'Use and File' procedure to all health insurance products in order to facilitate faster customer access to health policies. **Under 'Use and File', insurers are permitted to market products without the regulator's prior approval, thus avoiding a long wait. Under the existing 'File and Use' system, an insurer wishing to introduce a new product has to first file an application with the IRDAI and use the product for sale in the market only after getting all regulatory approvals.**

2.The Product Management Committee of the insurance company should ensure compliance to the policy of the board while signing of the new products or modification of products. Purpose - General and health insurance companies launch, modify or revise all categories of products and add-ons or riders in the health insurance business through the 'Use and File' method.

3.This means insurance firms can quickly introduce new schemes with innovative features, enabling people to participate and cover their health expenses. Earlier, companies used to file scheme drafts with the regulator and wait for weeks and months to get clearance. If there is a new disease that emerges, the 'Use and File' will allow insurers to design a product covering that disease and offer it immediately, rather than waiting for approval.

4.Concerns over a product - If a customer has already taken an insurance policy launched under 'Use and File', and the IRDAI later raises concerns about it, then it can lead to some rethinking. The customer will continue to get the benefits of the policy for the first year.

5.If the insurance company makes amendments in line with regulator's apprehensions, the customer will still get these benefits. However, if the policy is withdrawn as a result of IRDAI's intervention, the product will no longer be available for renewal in the second year. In such a case, the insurance company may provide the policyholder with similar options from its existing policies, and the customer may agree to taking one.

SHRESHTA SCHEME

1.Union Minister of social Justice and empowerment launched the Scheme for residential education for students in High school in Targeted Areas (SHRESHTA). The SHRESHTA Scheme has been formulated with the objective to provide quality education and opportunities for the Scheduled Caste (SC) students, even the poorest ones.

2.This scheme was introduced for providing quality education in top class CBSE-affiliated private Residential Schools to the meritorious SC students who cannot afford the fee of such schools. Approximately 3,000 seats are provided each year for admission in class 9th and 11th. Eligibility - Students belonging to marginalized income group within the SC community, whose parental annual income is upto Rs.2.5 Lakh.

3.The SC students studying in class 8th and 10th in the current academic year are eligible for availing the benefits of scheme. Selection - They are selected through a National Entrance Test

countries had backed giving the world's largest penguins special protection status at a 10 day meeting in Berlin of parties to the Antarctic Treaty. The treaty was forged in 1959 to ensure that the continent remains the preserve of science, and free of arms.

As of June 1, 2022 over 550 lab-confirmed monkeypox cases have been reported from 30 countries, the World Health Organization (WHO) said at a press briefing. These countries are predominantly in Europe and North America, which are not endemic for monkeypox virus.

25 crore units volume of solar energy generated by the Cochin International Airport Ltd (CIAL) from various solar PV installations at the airport till date, offsetting 1,60,000 metric tonnes of carbon emissions. CIAL is the world's first airport fully powered by solar energy. CIAL, which started its solar initiative in 2013 with a 100 kilowatts peak (kWp) pilot plant, now has a total installed solar capacity of 50 megawatts peak (MWp). In 2015, CIAL attained the status as the world's first airport to be fully powered by solar energy.

India has achieved the target of 10% ethanol blending in petrol, five months ahead of schedule, Prime Minister Narendra Modi said on Sunday. This, he claimed, had led to a reduction of 27 lakh tonnes of carbon emissions and saved foreign exchange worth ₹41,000 crore. Farmers earned ₹40,600 crore in the past eight years due to increase in ethanol blending, Mr. Modi said at an event organised by the Isha Foundation.

The Chilika Lake, Asia's largest brackish water lagoon, has 176 fishing cats, according to a census done by the Chilika Development Authority (CDA) in collaboration with the Fishing Cat Project (TFCP). This is the world's first population estimation of the fishing cat done outside the protected area network.

Three Chinese astronauts docked at the country's space station on Sunday, the state broadcaster said, marking a new milestone in Beijing's drive to become a major space power. The trio blasted off in a Long March 2F rocket at 0814 IMT from the Jiuquan launch centre in north western China's Gobi desert.

North Korea testfired a barrage of shortrange ballistic missiles from

for SHRESHTA (NETS), which is conducted by the National Testing Agency (NTA) for admission in class 9th and 11th.

4. Successful candidates, after following the e-counselling process, are given admission in the school of their choice anywhere in the Country for their academic persuasion.

5. The Department of Social Justice and Empowerment shall bear the total cost of the school fee and residential charges till completion of their academic upto class 12th. There after the students of the scheme may avail benefits of other schemes of the Department for their higher education.

SECTION 25 COMPANY

1. A trial court order that allowed the Income Tax Department to probe the affairs of the National Herald newspaper - owned by AJL - and conduct a tax assessment of Sonia Gandhi and Rahul Gandhi. Section 25 company under the Companies Act, 1956 is similar to what is defined under Section 8 under Companies Act, 2013.

2. It is a not-for-profit charitable company formed with the sole object of promoting commerce, art, science, religion, charity, or any other useful object. It intends to apply its profits, if any, or other income in promoting its objects, and to prohibit the payment of any dividend to its members.

3. Section 8 of the Companies Act, 2013 includes other objects such as sports, education, research, social welfare and protection of environment among others. While it could be a public or a private company, a Section 25 company is prohibited from payment of any dividend to its members. Section 25 states that by its constitution the company is required/ intends to apply its profits, if any or other income in promoting its objects and is prohibited from paying any dividend to its members.

4. Trust structure - **Most people looking to form a charitable entity go for forming a company under Section 25, now Section 8, rather than a Trust structure. This is because most foreign donors like to contribute to a company rather than Trust because they are more transparent and provide more disclosures. If a company has to be converted into a not for profit company, they can't be converted into a Trust, however, they can be converted into a Section 25/ Section 8 company.**

D2M TECHNOLOGY

1. The Department of Telecommunications (DoT) and India's public service broadcaster Prasar Bharati are exploring the feasibility of the called 'direct-to-mobile' (D2M) broadcasting technology. The D2M Technology allows broadcasting video and other forms of multimedia content directly to mobile phones, without needing an active internet connection. The technology is based on the convergence of broadband broadcast & cellular networks, using which mobile phones can receive terrestrial digital TV.

2. It would be similar to how people listen to FM radio on their phones, where a receiver within the phone can tap into radio frequencies. Using D2M, multimedia content can also be beamed to phones directly. The idea behind the technology is that it can possibly be used to directly broadcast content related to citizen-centric information. It can be further used to counter fake news, issue emergency alerts and offer assistance in disaster management, among other things.

3. Apart from that, it can be used to broadcast live news, sports etc. on mobile phones. More so, the content should stream without any buffering whatsoever while not consuming any internet data. Impacts - For consumers, a technology like this would mean that they would be able to access multimedia content from OTT content platforms without having to exhaust their mobile data, and at a nominal rate. The technology will also allow people from rural areas, with limited or no internet access, to watch video content.

4. For businesses, this technology can enable telecom service providers to offload video traffic from their mobile network onto the broadcast network, thus helping them to decongest valuable mobile spectrum. This will also improve usage of mobile spectrum and free up bandwidth which will help reduce call drops, increase data speeds etc.

GOVERNMENT'S PLAN RELATED TO D2M TECHNOLOGY

1. The Department of Telecommunications (DoT) has set up a committee to study the feasibility of a spectrum band for offering broadcast services directly to users' smartphones.

multiple locations toward the sea on Sunday, South Korea's military said, extending a provocative streak in weapons demonstrations this year that U.S. and South Korean officials say may culminate with a nuclear test explosion.

Three of every four river monitoring stations in India posted alarming levels of heavy toxic metals such as lead, iron, nickel, cadmium, arsenic, chromium and copper. In about a fourth of the stations, which are spread across 117 rivers and tributaries, high levels of two or more toxic metals were reported. Of the 33 monitoring stations in the Ganga, 10 had high levels of contaminants. The river, which is the focus of the Centre's Namami Gange mission, has high levels of lead, iron, nickel, cadmium and arsenic, according to the State of Environment Report, 2022 from the environmental NGO, the Centre for Science and Environment (CSE).

2. Band 526-582 MHz is envisaged to work in coordination with both mobile and broadcast services. At the moment, this band is used by the Ministry of Information & Broadcasting across the country for TV transmitters.

3. In 2021, Prasar Bharati had announced collaboration with IIT Kanpur to test the feasibility of the technology.

4. Challenges - While still at a nascent stage, bringing key stakeholders like mobile operators onboard will be the "biggest challenge" in launching D2M technology on a wide scale. Mass roll out of the technology will entail changes in infrastructure and some regulatory changes.