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TECHNICAL NEWS
Department of Computer Applications
NEWSLETTER

GSAT-31, India's 'high power' satellite, successfully launched on 5th Feb

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India's latest communication satellite GSAT-31 was successfully launched by European launch services provider - Arianespace's rocket from French Guiana in the early hours of Wednesday. Blasting off from Ariane Launch Complex at Kourou, a French territory located in northeastern coast of South America at 2.31 am (IST), the Ariane-5 vehicle injected GSAT-31 into the orbit in a flawless flight lasting about 42 minutes. "It gives me great pleasure on the successful launch of GSAT-31 spacecraft on board Ariane-5," Indian Space Research Organisation's (ISRO) Satish Dhawan Space Centre (SDSC) Director S Pandian said at Kourou soon after the launch.

"Congratulation to Arianespace on the successful launch and precise injection of satellite into the orbit," he added. The GSAT-31 is a "high power" communication satellite with Ku-band, and it is going to serve and replace some of the satellites that are going to expire soon, he said further.

The Ariane-5 vehicle (Flight VA247) also carried Saudi Geostationary Satellite 1/Hellas Sat 4 along with GSAT-31. GSAT-31 separated from the Ariane-5 in an elliptical Geosynchronous Transfer Orbit with a perigee (nearest point to Earth) of 250 km and an apogee (farthest point to Earth) of 35,850 km, inclined at an angle of 3.0 degree to the equator, ISRO said in a release after the launch. **Weighing about 2,536 kg, the Indian satellite, GSAT-31, will provide continuity to operational services on some of the in-orbit satellites**. GSAT-31 is the country's 40th communication satellite which is configured on ISRO's enhanced 'I-2K Bus', utilising the maximum "bus capabilities" of this type. This satellite will augment the Ku-band transponder capacity in Geostationary Orbit, **ISRO said. With a mission life of around 15 years, GSAT-31 will be used for supporting VSAT networks, Television uplinks, Digital Satellite News Gathering, DTH-television services, cellular backhaul connectivity and many such applications**. It will also provide wide beam coverage to facilitate communication over large oceanic region, comprising large parts of Arabian Sea, Bay of Bengal and Indian Ocean, using a wide band transponder.

"GSAT-31 has a unique configuration of providing flexible frequency segments and flexible coverage," ISRO chairman K Sivan said.

"GSAT-31 will provide DTH Television Services, connectivity to VSATs for ATM, Stock-exchange, Digital Satellite News Gathering (DSNG) and e-governance applications. The satellite will also be used for bulk data transfer for a host of emerging telecommunication applications," he said in a release. Riding in Ariane-5's upper position, HS-4/SGS-1 was released first in the flight sequence, with its separation occurring about 27 minutes after liftoff.

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ZTE completes world's first 5G call with prototype smartphone

ZTE Corporation on Friday announced that along with Guangdong branch of China Unicom, it has made the world's first 5G call by using 5G prototype smartphone in Shenzhen 5G field trial.

"The test also completed the verification of diverse services, such as Wechat group voice call, online video and web browsing," ZTE said.

Shenzhen is one of the first 5G pilot cities of China Unicom. Shenzhen is fully verifying the 5G network equipment's networking capabilities, special services, roaming and interconnection, and the inheritance of existing services in phases, thereby laying a solid foundation for the 5G whole network commercial construction.

"This achievement has made Shenzhen field of China Unicom become the world's first commercial test field to make the first call in the NSA mode and it is in compliance with the 3GPP Rel-15," ZTE said.

The test adopts ZTE's 5G end-to-end solution, including radio access network, core network, transport network and intelligent device, realizing the connection with ZTE's 5G prototype smartphone in the field environment.

Meanwhile, the test has verified several 5G key technologies such as Massive MIMO, 5G NR, NSA dual connectivity, FlexE transport technology and 5G Common Core.
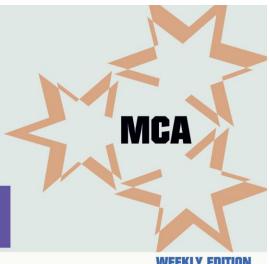
Microsoft India to establish AI labs, train 5 lakh youth

Microsoft India announced to set up Artificial Intelligence (AI) labs in 10 universities and train five lakh youth across the country in disrupting technologies. The company also said it will upskill over 10,000 developers over the next three years. "We believe AI will enable Indian businesses and more for India's progress, especially in education, skilling, healthcare and agriculture," said Anant Maheshwari, President, Microsoft India.

Microsoft AI today is fuelling digital transformation for over 700 customers and 60 per cent customers are large manufacturing and financial services enterprises. Over 700 partners have geared up to support the AI ecosystem, said the company.

Microsoft in December announced a three-year "Intelligent Cloud Hub" collaborative programme in India, for empowering institutes to skill students in AI and Cloud technologies.

India is one of the first countries to have such a programme in which Microsoft will support selected institutes that have the best-in-class infrastructure, curriculum and content, onsite training for faculty and students, access for participating students to Cloud and AI services, developmental tools and developer support.

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From 2020 Onwards, Microsoft Will Stop Supporting Windows 7 PCs

You have one more year from Microsoft to use Windows 7 on systems with official software updates. Yes, Microsoft this week has confirmed that all its existing Windows 7 PC users will have no option, but to upgrade to Windows 10 before 2020 kicks in. This has been informed via a blog post which says that the popular Windows version will stop getting security updates from the software giant.

The blog specifically mentions that post 14 January 2020, Windows 7 devices will not get official support from the company, which effectively makes a Windows 10 upgrade the only option.

In addition to Windows 7, from the same date, Microsoft will also put an end to its Internet Explorer web browser, which will be replaced with Edge. Having said that, even after Microsoft ends support for the older OS, users would still be able to operate it, but would not receive any security, software or feature updates. Basically, this means running their machines with the risk of getting ravaged by all kinds of viruses and bugs.

Windows 7 was released in October 2009, less than three years after the release of its predecessor, Windows Vista, and managed to win over millions of Windows users, even after its successor Windows 8 was rolled out.

This news is interesting also because a few months back Microsoft said that Windows 7 professional and regular version users can continue using them for at least another five years. Yes, that's right, until 2023.

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Gmail Dot Feature Exploited to Commit Credit Fraud and More: Report

Gmail offers a nifty "dot" feature which redirects all emails to the same account in case users have mistakenly added a dot or a period in the recipient's email address. But cybercriminals are exploiting the same feature to commit crimes such as filing fake tax returns, availing financial benefits from government agencies, extending the trial period of online services, and credit fraud among others. As per a report, the bad actors have been exploiting the feature to commit a diverse array of scams since early 2018.

The Gmail dot feature fraud, that was discovered by security firm Agari and was first reported by Axios, was primarily employed to commit BEC (Business Email Compromise) scams. So, how did this happen? The Gmail dot feature ensures that emails intended for a particular recipient reaches them if the sender accidentally adds (or forgets) a dot or period in the username. For example, if someone intends to send an email to abc@gmail.com and mistakenly sends it to a.bc@gmail.com, the email will be delivered to the intended recipient who owns the correct username, or vice versa - if someone intends to send an email to a.bc@gmail.com, and mistakenly sends it to abc@gmail.com.

Since Gmail is the only major service provider to follow this practice of making these email addresses indistinguishable, service providers continue to treat each dot variant of the email address as a separate one, and indirectly, a different individual. While many of us have used this Gmail 'feature' to register 'different' emails to the same service provider, such as Netflix, it appears

This vulnerability makes the process of scaling up a fraud much easier. As per the findings of security experts, a group of cybercriminals exploited the Gmail dot feature to avail around $65,000 (roughly Rs. 46,52,400) in credits from four banking institutions in the US. Moreover, they reportedly registered 14 different trial accounts with commercial services, filed 13 fraudulent tax returns before an online tax filing service and submitted 12 address change requests with the US postal service. Moreover, the feature was also misused to avail financial allowances such as social security benefits as well as disaster assistance and unemployment benefits under different identities.

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Google launches Password Checkup Extension for Chrome

HIGHLIGHTS

- Google launched a new Chrome extension called 'Password Check.
- This new extension can detect and respond to security threats.
- This will also alert you if your password has been hacked
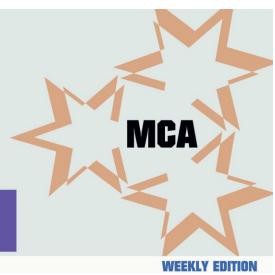
Steps to use the Password Checkup Chrome extension

- Users need to install the Password Checkup extension on Chrome.
- A Password Checkup icon in the browser bar will be seen.
- If users sign-in using unsafe credentials, the Chrome extension will send an alert.
- After the alert users can change their password and prevent their account from getting hacked.

The firm told, "We built Password Checkup so that no one, including Google, can learn your account details. To do this, we developed privacy-protecting techniques with the help of cryptography researchers at both Google and Stanford University. This is our first version of the Password Checkup, and we'll be refining in the coming months."

Recently, it was reported that Google has removed 29 beauty camera and camera filter apps from the Google Play Store. A report revealed that many of the apps have been downloaded millions of times and the download count emerged from Asia particularly India.

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IBM are developing a brain implant

It is true, IBM researcher Stefan Harrer is developing a new and novel way of monitoring a person's brain in order to predict epileptic seizures. Working with neurologists from the University of Melbourne and the companies Australian branch Harrer is designing a computer system that he says is like an artificial brain, this computer will be dedicated to analyzing a real human brain. They have designed a software application that will interpret human brain waves by using a neural network. A patient's brain waves are fed into the neural network and analyzed by the IBM proprietary hardware. The hardware in question is an experimental IBM chip called TrueNorth, this chip has been built with an architecture that is designed to mirror the human brain which is why it makes an efficient neural network.

The team of researchers in the genes using the computer chip with an external computer and eventually on a wearable device that will work cooperatively alongside a brain implant, the implant would send EEG information to the wearable device or computer which would then use the data to predict the onset of an epileptic seizure. The team expressed the desire for the system to be on a wearable device as quickly as possible as this would then allow them to do an analysis in real-time. They also said that having the wearable device working efficiently is the only real way for this technology to have a great impact beyond looking cool on research papers. They envisage the device on detecting an oncoming seizure would alert the patient and the patient's doctors using a connected smart phone.

Using the data attained from earlier implant studies the scientists involved expect they will be able to see deeper into the underlying structure of seizure brain activity. Harrer and his team hope to use this information to further refine the device so it can then be used not only to predict seizures but possibly be used to even stop them before they occur. Harrer said that to be unable to stop the seizure the artificial brain would have to compensate for the real brain which was malfunctioning.

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