

# TechTalk



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## Galaxy Wins Dell EMC Award for Partner with Highest Revenue Growth in Storage



It is our great pleasure to announce that Galaxy won the Dell EMC Award for Partner with Highest Growth in Storage Revenue.

Dell EMC recently conducted their India Partner Summit 2017 at Monte Carlo, where our CEO Sanjay Patodia personally received this award on behalf of Galaxy. This award highlights Galaxy's commitment in proactively reaching out to customers, mapping their critical needs, and providing value-added solutions that help them conduct their core business operations smoothly without any hassles. Dell EMC works with multiple channel partners in India in storage segment, so that

makes our achievement even more noteworthy.

Indeed, this is a proud moment for all of us. Please join us in congratulating Galaxy leadership as well as Ajay Patodia [Director - Data Center Solutions, Galaxy] and rest of the Data Center Solutions team for this remarkable achievement!

On a similar note, while Galaxy has been a proud recipient of several awards and recognitions, this is by no means an end of our quest for excellence. The journey just begins, with a solemn promise of much more to come!

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## M.D. Speaks



"Dear Readers,

*This month, I will touch upon two topics that are very much the buzz - fake news and cryptocurrencies.*

*The rise of social networks has given many people a voice. While for the larger part, this is a very good thing, there are a significant number of mischief mongers who use the speed and reach of the internet to spread all kinds of fake news and rumors. Some of this is entirely harmless but the malicious ones are growing in leaps and bounds. Whether it is to discredit a business competitor or political opponent or even entire communities, the number of such posts is increasing every day. Then there are those supposedly well-meaning posts claiming to cure diseases with no known cure, warning about bridge collapses and flooded roads, informing about the death of some celebrity and other such things only to be proven wrong later. My advice to all is that everything needs to be cross checked before taking any action based on such news.*

*The second topic is crypto-currencies which may or may not be closely linked to the first one. When last checked, the value of a single bitcoin had risen from about USD 23/- in 2013 to USD 10,000/- today and at the rate at which it's going could reach USD 15,000/- by the time you read this. Of course, anything that rises so fast can fall even faster. But the fact remains that it has yielded close to 50,000% returns in less than 5 years. As of now it definitely seems to be the strongest currency in the world. Only time will tell whether it will continue to do so.*

Happy Reading"

*APDhingat*

# The Future is Now

## A Smartphone App That Can Hear Your Car's sigh!



What if you had an app that can decode your car's language? Within a year or two, an app on your smart phone will analyse a car's sounds and vibrations, let you know if your tyres need air, spark plugs are bad, or if air filter needs to be replaced. The app does not ask you for any history of the car, nor does it require you to connect your device to the car in anyway. It derives its information from analysing the car's sounds and vibrations, as measured by your smartphone's microphone and accelerometers.

The MIT research behind this idea has been reported in a series of papers including the journal *Engineering Applications of Artificial Intelligence*. Research scientist Joshua Siegel PhD '16 is among the co-authors of this paper. Siegel says the accuracy of the results from the diagnostic

systems are well beyond 90% and tests for misfire detection produced no false positives where a problem was incorrectly identified.

An engine's sounds can reveal tell-tale signs of how clogged the air filter is and when to change it. And unlike many routine maintenance tasks, it's just as bad to change air filters too soon as to wait too long. As the filter starts getting clogged, it makes a whistling noise as air is drawn in. You might not be able to differentiate it from the other engine noises, but your phone can. Some of the diagnostics require a complicated multistep process. For example, to tell if a car's tyres are getting bald and will need to be replaced soon, or that they are overinflated and might risk a blowout, the researchers use a combination of data collection and analysis. First, the system uses the phone's built-in GPS system to monitor the car's actual speed. Then, vibration data can be used to determine how fast the wheels are turning. That in turn can be used to derive the wheel's diameter, which can be compared with the diameter that would be expected if the tyres were new and properly inflated. Siegel says that the smartphone app combining various diagnostic systems could save an average driver up to \$125 a year and improve their overall gas mileage by a few percentage points. For trucks, the savings could run to \$600 a year, not counting the cost saved on breakdowns. Many of the diagnostics are derived by using machine-learning processes to compare the recordings of sound and vibration from well-tuned cars with similar ones that have a specific problem. Siegel said the machine learning systems can extract even very subtle differences. For example, algorithms designed to detect wheel balance problems did a better job at detecting imbalances than expert drivers from a major car company.

A prototype smartphone app that incorporates all these diagnostic tools is being developed and should be ready for field testing in about six months, and a commercial version is expected within a year after that. The system will be commercialized by a start-up company that Siegel founded earlier, called *Data Driven*.

## New Power Converter for IoT Reduces Resting Power Consumption by 50%



The concept of "internet of things" relies on sensors for vehicles, appliances, civil structures, manufacturing equipment, and even livestock that report information directly to a network of servers, to facilitate maintenance and coordination of tasks. A sensor may wake up to take measurement, perform a small calculation and verify if a number crosses some threshold. Those operations require relatively little current. However, sometimes the sensor might need to transmit an alert to a distant radio receiver which requires much larger currents. "Typically, converters have a quiescent power, which is the power that they consume even when they're not providing any current to the load," says Arun Paidimarri, who was a postdoc at MTL when the work was done and is now at IBM Research. "So, for example, if the quiescent power is a microamp, then even if the load pulls only a nanoamp, it's still going to consume a microamp of current. My converter is something that can maintain efficiency over a wide range of currents." Generally, power converters, which

take an input voltage and convert it to a steady output voltage, are efficient only within a narrow range of currents. But at the International Solid-State Circuits Conference last week, researchers from MIT's Microsystems Technologies Laboratories (MTL) presented a new power converter that maintains its efficiency at currents ranging from 500 picoamps to 1 milliamp, a span that encompasses a 200,000-fold increase in current levels.

The researchers' converter is a step-down converter, meaning that its output voltage is lower than its input voltage. In particular, it takes input voltages ranging from 1.2 to 3.3 volts and reduces them to between 0.7 and 0.9 volts. In the low-power regime, the way these power converters work, it's not based on a continuous flow of energy but on packets of energy. The control circuitry for the switches includes a circuit that measures the output voltage of the converter. If the output voltage is below some threshold — in this case, 0.9 volts — the controllers throw a switch and release a packet of energy. Then they perform another measurement and, if necessary, release another packet. If no device is drawing current from the converter, or if the current is going only to a simple local circuit, the controllers might release between 1 and a couple hundred packets per second. But if the converter is feeding power to a radio, it might need to release a million packets a second.

"You don't want your converter to burn up more than what is being delivered, so it's essential for the converter to have a very low quiescent power state," says Yogesh Ramadass, the director of power management research at Texas Instruments. This comes as a good news for companies like Galaxy that are committed to providing cutting-edge IoT solutions to customers across automobile, manufacturing, BFSI, pharma, FMCG and other industries.



# Tech News

## Net Neutrality backed by TRAI - Will RJio, Airtel Stand to Gain?



The Telecom Regulatory Authority of India (TRAI) has backed the basic principle of an open and free internet which experts believe, is likely to give an edge to integrated operators like Reliance Jio Infocomm Ltd. and Bharti Airtel Ltd. over pure play connectivity providers.

The regulatory body recommended that Internet service providers (ISPs) should be prohibited from discriminating between their web traffic by either blocking some apps, websites and services or by offering fast lanes to those who pay for the privilege. Hence, if the government accepts the proposal, ISPs will not be able to block any web traffic or offer fast lanes for content providers who pay for the facility.

TRAI had partially addressed the topic of Net neutrality in February 2016 when it ruled in favour of prohibiting discriminatory tariffs for data. It barred platforms like Facebook's 'Free Basics' and Airtel Zero which allowed free access to select websites. The new regulations go

a step further and recommend prohibiting any service provider from throttling data speeds. Telcos such as Reliance Jio and Bharti Airtel could be key beneficiaries as they have a presence in content platforms. Reliance Jio (JioTV and JioCinema, etc.) and Airtel (Wynk Movies, Music & Games) have been creating their own content ecosystem to retain and increase subscribers. In other words, these telcos will use the content delivery network exemption and offer platform content at lower prices to drive their subscriber base.

TRAI has also suggested changing license terms of ISPs to explicitly restrict any form of discrimination in Internet access based on content. It has proposed to bar service providers from creating partnerships that will have a discriminatory effect based on content, sender or receiver, protocols or user equipment, except in special cases like court orders and government directions. The regulator has recommended for DoT to set up a panel of telecom operators, ISPs, content providers, civil society organizations and consumer representatives to monitor and probe violations. Further, TRAI wants telecom operators to declare their traffic management practices as and when deployed, and the impact it may have on users. Internet firms lauded TRAI's recommendations, while telecom operators said that the regulator has applied a 'narrow definition' to the topic.

Telcos wanted over-the-top players such WhatsApp and Skype that offer voice services to be regulated, as they are competing for the same set of services. Meanwhile, experts said the report did not mention a timeframe for implementing the recommendations. Service providers are disappointed, given that the regulator has not made any recommendation for voice-related over-the-top applications, except that separate regulations to deal with these applications be created. Telcos have asked for a level-playing field.

The regulator has also recommended a watchdog for enforcing net neutrality and has proposed reasonable set of measures for traffic management. It has also recommended stiff penalties for any likely violations.

## Nokia's Bengaluru R&D Center made bigger: Focus On 5G

**A Center for Next-Generation Technology and More Opportunity for Bright Engineers**



Leading global telecom network equipment maker Nokia said it is now expanding its research and development centre in Bengaluru to focus on next-generation technologies. such as 5G, cloud and big data. The expanded facility will carry out research in areas such as cloud computing and big data analytics. It would also work on fifth-generation mobile networks or 5G that aims to bring richer and faster data and Voice over Long-Term Evolution (VoLTE), a standard for high-speed wireless communication for data terminals and mobile phones. In future, these would power innovations such as telemedicine, driverless cars and automation at workplace and home.

Located at Manyata Embassy Park, this center is one of Nokia's four global R&D sites, and currently employs more than 6,000 engineers. It is expected to provide a huge opportunity for many engineers on upcoming technologies which will change the way we live and work. Nokia had also established a dedicated lab for 5G and Internet of Things (IoT) - a technology where

devices communicate with each other intelligently, to work on applications for smart cities and public safety, as well as many IoT use cases including real-time city surveillance, smart parking. They are also working with Indian service providers, including Bharti Airtel and State-run Bharat Sanchar Nigam Ltd. to help them transform their networks to 5G.

# Tech News

## What to Expect If Bitcoins Are Legalized in India?

### The Cryptocurrency Revolution Touches India. Are Bitcoins Legal in India?



As of June 2017, India accounted for more than 11 per cent of the global cryptocurrency trade. This aggressive trend is a clear indication of the growing fascination of Indians towards Bitcoins as a lucrative investment proposition. It has been reported that the Indian government was considering a proposal to introduce its cryptocurrency similar to Bitcoins. It is expected that if the government and Digital Asset and Blockchain Foundation of India (DABFI) together work on a proper compliance framework and documentation requirements for customers, then these businesses might see light of the day and thrive. The Indian government's stand currently remains unchanged. Today, crypto-currency is neither illegal nor legal in India. The discussion on whether crypto-currencies should be banned or regulated has been on for quite some time. The Reserve Bank of India regards cryptocurrencies as a violation of the country's existing foreign exchange norms. This is because the conversion of Bitcoins into foreign exchange does not currently fall under the purview of the central banking institution, making such transactions highly unsafe and vulnerable to cyber-attacks. It is being speculated that cryptocurrency trading might fall under the purview of the stock market regulator, Securities

and Exchange Board of India (SEBI). The idea is to treat such currency in a manner that it can be traded on registered exchanges. So, if Bitcoins are legalized in India, the following things would happen:

1. Bitcoins would fall under the purview of RBI's 1934 Act. Reserve Bank of India Act, 1934 is the legislative act under which the Reserve Bank of India was formed. This act along with the Companies Act, which was amended in 1936, was meant to provide a framework for the supervision of banking firms in India.
2. Bitcoin investors would be taxed.
3. RBI would issue guidelines regarding investment and purchase of Bitcoins.
4. If any foreign payment is made through Bitcoins, it would fall under the purview of FEMA Act. The Foreign Exchange Management Act, 1999 (FEMA) is an Act of the Parliament of India "to consolidate and amend the law relating to foreign exchange with the objective of facilitating external trade and payments and for promoting the orderly development and maintenance of foreign exchange market in India".
5. Returns from investment in Bitcoins would be taxed.

## Special Focus

### Lenovo Tops Indian Tablet Market with 20.3% Market Share

#### Lenovo Tops Indian Tablet Market with Big Growth of 94% This Year.



While the Indian tablet PC market recorded a 4% decline (Year-on-Year) in the third quarter this year, Lenovo captured 20.3% share to lead the segment, witnessing 94% growth over the previous quarter according to market research firm CMR. Acer grabbed the second spot with 16% market share in terms of unit shipments. Lead Analyst at CMR Narinder Kumar believes that over a period of time, tablet PCs are finding improved adoption in corporate as well as government segment. Moreover, education has been the key segment for B2B sales and the key driving force behind the growth in 3Q 2017.

Lenovo's growth was attributed to its plan of distribution of its tablets towards "NAMO E-Tab Tablet Sahay Yojana" in August. The company's tablet model "Tab3" 7-inch was the highest contributor with 13% market share in overall tablet market in terms of unit shipments. According to CMR's India Quarterly Tablet PC Market Review, 0.94 million tablets were shipped in India, recording a 38% growth over the previous quarter. Tablet PCs in consumer space are side-lined primarily by phablets (Mobiles with 5.5-inch and above screen size) due to lack of product differentiation

and compelling use cases. In terms of unit shipments, 4G, 3G and Wi-Fi-based tabs witnessed a quarter-on-quarter (QoQ) growth of 53%, 44% and 22% respectively in the third quarter, while 2G tablets witnessed a decline of 15% in the same period. In terms of Operating System (OS), Android continued to be the top operating system choice with 92% market share due to the increased availability of affordable Android-based tablets in the market. The Android market grew 43% from the last quarter while iOS grew only 5% and its market share remained steady at 8%. The tablet market in the segment of Rs 5,000-10,000 witnessed a huge growth of 160%. Tabs in the price category of less than Rs 5,000 witnessed sharp sequential decline of 27% in the third quarter of 2017. "With the cost of 4G data going down, the demands for 4G devices will significantly increase in the coming quarters. This will increase affordability of 4G tablets. Hence the demand for low-cost tablets is likely to grow significantly," said Menka Kumari, Analyst at CMR. Galaxy Office Automation Pvt. Ltd. is proud to be associated with Lenovo as one of its largest channel partners in their enterprise segment in India.



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- ✚ An ISO 9001:2008 organization, founded in 1987.
- ✚ Committed team of over 200 skilled professionals.
- ✚ PAN India presence.
- ✚ Trusted IT services provider to more than a 1000 companies.
- ✚ Experienced consultants certified on a wide spectrum of technologies.
- ✚ The Galaxy Technology Innovation Centre, a state-of-the-art integrated hardware and software laboratory, allows customers a hands-on look at the latest storage, backup, security, application delivery and virtualization technologies.
- ✚ Customer list includes many of India's leading corporations, banks and government agencies.
- ✚ Four business units collaborate to provide a full spectrum of services and ensure smooth projects. Together, they provide our customers with truly end to end professional IT Services.



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### VISION

*"To become the most preferred technology solution partner by listening to our customers, anticipating their needs and providing reliability, flexibility, responsiveness and innovative products and services. Achieving market leadership and operating excellence in every segment of our company."*

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*"Total customer satisfaction; through innovative insights, quality service and excellence in technology deployment."*

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