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KBytes
leading edge news

India's Ambitious Bid to Become a Solar Power

The Indian government hopes to increase the country's solar capacity 30-fold by 2020.

http://www.technologyreview.com/news/535551/indias-ambitious-bid-to-become-a-solar-power

India's Prime Minister, Narendra Modi, made headlines last fall by announcing his ambition to install 100 gigawatts of solar power capacity—over 30 times more than India has now—by 2022. Skeptics noted Modi's lack of a detailed plan and budget, but some well-capitalized industrial players have apparently caught Modi's solar fever: at a renewable energy summit called by Modi last month he collected pledges for 166 gigawatts of solar projects.

At the New Delhi summit, renewables giants such as First Solar and SunEdison mixed for the first time with chief ministers from Indian states and top executives of Indian industrial conglomerates such as Adani Enterprises and the National Thermal Power Corporation, India's largest power generator.

Tobias Engelmeier, founder of Bridge to India, a solar-market consultancy, says Modi's ambition has "changed the conversation" about India's solar potential. But what happens next, says Engelmeier, will depend only in part on what renewable energy strategy Modi can devise from within the central government. The ultimate driver could be India's unmet demand for electricity. A quarter of India's population is not connected to the power grid, and electricity supply is chronically short for those who are.

Modi told the New Delhi summit that India had to "make a quantum leap in energy production," and he said solar could deliver with its rapid construction rates and crashing prices—from 20

rupees (32 cents) per kilowatt-hour to less than seven rupees over the last three years. "The government seems to really subscribe to the possibility that solar and renewables can transform India," says Pashupathy Gopalan, president for the Asia-Pacific region for SunEdison, based in Belmont, California.

Gopalan, whose firm has installed about 200 megawatts of solar projects in India over the past five years, came to Modi's summit with signed agreements to build 10 gigawatts of solar and wind power in the states of Karnataka and Rajasthan by 2020. SunEdison also struck a joint venture with Adani Enterprises to explore building a $4 billion silicon solar plant in Gujarat; the companies say they could make a final decision and begin construction later this year.

First Solar, which until last year was only a supplier of solar panels to India, pledged to develop five gigawatts of solar projects there by 2020.

In some Indian states, renewable energy can compete with fossil fuels even without the benefit of any subsidies, at least for commercial and industrial consumers, who pay the highest rates in India. In Maharashtra, Engelmeier says, industrial firms normally pay 10 rupees or more per kilowatt-hour for grid power, but solar developers where are selling their power at a profit for eight rupees per kilowatt-hour.

Engelmeier's firm reported in November 2014 that even rooftop installations, which cost more to install, now match or beat the grid rates for commercial and industrial consumers in one out of four Indian states, with rates of about eight rupees per kilowatt-hour.

Between 2012 and 2014, solar capacity increased from 461 megawatts to over three gigawatts in India, and Engelmeier projects that developers will add up to two more gigawatts this year.

An increasing number of states, including Rajasthan, Gujarat, and Andhra Pradesh, are leasing public lands for solar parks. This eliminates the need for solar developers to work through India's complex land registries to support their own solar farm.

Power grid access is opening up in several states that have exempted solar projects from so-called "wheeling" charges. This means solar developers can identify commercial and industrial buyers for their power and send the power over the transmission grid for

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free. According to Gopalan, this can reduce the cost of power by 10 to 25 percent.

Still, hitting Modi's target of 100 gigawatts of solar by 2022 will require more fundamental reform of the power sector. Solar power's exemption from wheeling, for example, is likely to prompt a backlash by utilities desperate to retain their highest-paying clients. "The utilities are pretty averse to losing their good customers. I'm not clear about the political economy of how this is going to play out over the long term," says Gireesh Shrimali, an energy economist at the Middlebury Institute of International Studies in Monterey, California, who has advised the Indian government on renewable energy policies.

However, distributed solar installations could actually help the utilities by reducing demand from their least profitable customers: Indian farmers who get free electricity to power irrigation pumps. This free power accounts for 20 percent of India's electricity consumption and accounts for roughly $10 billion of the losses on utilities' books, Gopalan says.

Solar is well suited to pumping, which is not adversely affected by its intermittent output. "With solar pumping for irrigation," says Gopalan, "the electricity sector is going to get a big boost on its balance sheet."

Real estate platform adds virtual reality support in India

HTTP://WWW.HYPERGRIDBUSINESS.COM/2015/02/REAL-ESTATE-PLATFORM-ADDS-VIRTUAL-REALITY-SUPPORT-IN-INDIA/

BY PRESS RELEASE • FEBRUARY 28, 2015

Press release: CommonFloor Introduces Virtual Reality for consumers in Real Estate – CommonFloor Retina, Bangalore — CommonFloor.com, India's leading online real estate platform introduces CommonFloor Retina, world's first virtual reality innovation in real estate that is available to the masses. This technological breakthrough offers 'real' property experience for the seekers allowing them to view, review and assess multiple properties from anywhere at any point of time.

"As a new-age online realty player, technology and innovation are part of our core DNA," said Sumit Jain, Co-founder and CEO, CommonFloor.com. "Property buying demands huge time and financial investment by the buyer and it is our constant endeavour to create tools and technology that makes property search easy for the consumer and gives them a wow experience. CommonFloor Retina is a result of one such quest that adapts technology smartly to the consumer's advantage."

How does CommonFloor Retina work?

- Install the CommonFloor Retina application on your Android phone.
- Launch the App and insert the phone inside CF Retina headgear.
- Experience the property through virtual reality.
- Please visit www.commonfloor.com/retina and watch the give link video below for more information.

"We believe in making strategic investments in building cutting edge technology," said Lalit Mangal, Co-founder and CTO, CommonFloor.com. "This product is pegged to be a game changer in the real estate industry in India and globally. We will work closely with the builder community to scale-up the number of projects listed, thereby helping

property buyers to choose from as many projects that they may want to visit."

"CommonFloor has been instrumental in transforming the way we view properties." said JC Sharma, Vice Chairman and Managing Director of Sobha Limited. "Their latest introduction, CommonFloor Retina, is indeed commendable. This state-of-the-art technology product will enable our customers to take a virtual tour of the property they wish to see in the comfort of their home. It allows them to experience both the interiors and exteriors of the property in an interesting manner and saves a lot of time, especially if one needs to choose between several properties."

To use CommonFloor Retina, a user simply needs to sport the headgear to experience virtual tour of the property of their choice. This offers buyers an unforgettable experience and insights about the property from the perspective of space and ambience among other features. The simple magnet on the headgear acts as a navigation tool. The app also saves the builders the cost and space to construct a model apartment.

"It is an interesting product that can help a home buyer visualize the building and apartment under consideration in greater depth," said Vyoma Pandit, Senior DGM, Marketing, Brigade Group, "It should be useful to customers who cannot be physically present at the property location before buying, and also to people who have already purchased a property and want to share it with their family and friends."

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Tech Specifications

- The app works on the Android platform with the following phones
- Nexus 4 and above
- MotoG 2nd Gen
- Samsung Galaxy 4 and above
- MotoX
- Mi3

CommonFloor.com has the largest number of property listings with more than 1 lakh residential projects listed on their platform from over 200 cities. The platform has already mapped 10M homes and is committed to map every property in India on its platform. The Company has a team of 1000+ employees and their constant endeavour is to get the best talent to work with them.

About CommonFloor.com

Launched in 2007 by Sumit Jain, Lalit Mangal and Vikas Malpani, CommonFloor.com, is India's leading real estate platform that combines property search, apartment management and vendor management and caters to a person's complete residential requirements.

From searching for an apartment to facilitating interactions within an apartment community on the 'CommonFloor' platform, to connecting one to relevant service providers, the platform is dedicated to meeting all aspects of consumers' needs around their home. With over 5 lakh active property listings from over 200 cities, it has over 1 lakh residential projects listed with it. CommonFloor.com has been funded by Accel Partners, Tiger Global and Google Capital.

Code for India launches free, open source educational portal

http://www.thehindu.com/news/national/code-for-india-launches-free-open-source-educational-portal/article6994295.ece

Gujarat Chapter of Code for India's initiative is called 'Skill up India'

Yes, we can Google every question, search every bit of information by the click of a button. But if you are looking for a structured learning experience from experts and certified instructors, for instance, to learning the basics of engineering or simply a complete awareness course on Ebola, you now have a one-stop destination.

The Gujarat Chapter of Code For India, a U.S.-based non-profit organisation of techies from India, on Friday launched 'Skill Up India' – India's open source, free, online education portal.

Democratising knowledge

"This is non-profit open education. This is an initiative in democratisation of knowledge and learning. Anyone can come and click on any course they want. The login in procedure is easy and frictionless," Code For India founder and venture capitalist Karl Mehta told a press conference here.

He said big universities offering their entire courses on open domains was a "massive trend" and India must take advantage of this.

"It's like a virtual university. Sitting in India, you can learn exactly what is being taught in the classroom at the University of Michigan, for instance. This is the power of content combined with technology. It is about empowering those who have knowledge to give and those who want to learn," he said.

There are no criteria for subscribing to the courses offered on SUI. Currently in its initial stages, the portal is working on collaborating with institutes such as the Indian Institute of Management, Ahmedabad, and the Indian Institute of Technology, Gandhinagar, to put up courses. In addition, individuals willing to offer any kind of knowledge can "publish a course."

The portal is planning to set up a review committee to assess the credibility of instructors and the courses they offer, Mr. Mehta said.

In India, where internet connectivity is still poor, the possibility of SUI reaching open education to the last person seems distant. "However," said Mr. Mehta, "the availability of high quality content we hope will put pressure on the government to enhance the internet accessibility in the country."

More languages soon

So far, all the courses on SUI are in English, but Mr. Mehta said his team had volunteer engineers who could translate them in Indian languages.

The SUI initiative is in response to Prime Minister Narendra Modi's call to "Skill India."

"The possibilities with this open-source, open-content portal are endless. Institutions can donate courses, individuals can offer courses in any skill, even corporates can put their best practices," Mr. Mehta said. 'Skill Up India' is the first project of the Code for India's Gujarat Chapter, in partnership with International Centre for Entrepreneurship and Technology (iCREATE) and U.S.-India Business Council, Education Foundation.

What Conventional Hospitality Businesses Can Learn from Airbnb's Prowess

http://www.techvibes.com/blog/what-conventional-hospitality-businesses-can-learn-from-airbnbs-prowess-2015-03-11

Since its inception in 2008, Airbnb has hosted 25 million guests across 190 countries in over a million host locations worldwide. Equipped with $475 million from their last round of financing, the site is poised to continue reshaping the hospitality business with its unique marketplace platform model for home rentals.

Suffice it to say, Airbnb poses a serious competitive threat to hotel chains. A lot of factors have been important to the company's success, like the advent of the sharing economy, its market readiness, as well as the inimitable rental inventory it has amassed since inception.

But one factor trumps the rest: an unmatched technical infrastructure and prowess. Airbnb has built a robust web and mobile presence that is simple, yet compelling. It's very easy for users to engage with the brand through a single platform, which can be conveniently accessed through a number of touch points across various devices. With just a few clicks, anyone can access desired rental properties anywhere in the world.

In addition to sustaining its competitive advantage through a powerful marketplace platform, Airbnb has made clear its intention to position itself as a company that provides customers with experiences and not just technology. The firm has expressed a strong interest in developing its own concierge service, as well as hiring caretaking staff to manage rental properties and provide in-person care to customers. All of this indicates that Airbnb's technology is there to ultimately facilitate the guest experience. This increasingly prevalent strategic intention makes the reliance many hotel chains have on premium brand differentiation to compete with Airbnb over the long-term far less compelling.

Conventional hotel businesses can learn a lot from Airbnb's effective use of technology to invigorate their hospitality services and regain market share. Several of the leading hotel chains do in fact have some kind of software-based web and mobile presence. But this presence still typically entails a static consumer application with minimal functionality. And in most instances, there are multiple applications for different subsidiary hospitality brands.

From a customer's perspective, the overall digital experience is confusing, difficult to navigate, and dilutive to their interaction with a particular brand of choice. This is bad for hotel chains. If the mobile user drop-off rate is an estimated 20% for each additional step required to engage with an app in its entirety (as suggested by some studies), imagine the loss in user engagement due to a poorly designed multi-application strategy.

Hotel chains need to start focusing on consolidating and streamlining their set of user applications, as well as adopting a single platform approach for all subsidiary brands. This will make it easier for customers to access and experience the hotel's overarching brand, offerings, and services without compromising the ability to provide them with unique options based on subsidiary brand or personal preferences.

Getting to a single platform with a horizontally integrated application strategy is not an easy feat, especially given the pervasiveness of legacy systems within large enterprise settings and past investments in expensive code. But the stakes are too high to consider anything less than a total revamp of the existing technology stack.

For an even better fight against Airbnb, hotel chains should utilize what they have that Airbnb does not: fixed real property worldwide that can be renovated endlessly to make the wildest hospitality dreams of travellers come true. This is where innovative hardware, wearables, and the "Internet of Things" come into play.

Interestingly enough, in late 2014 Starwood Hotels and Resorts announced a partnership with Apple to deliver an automated hotel experience through the new Apple Watch. Guests will be able to use the watch to conduct such tasks as unlocking rooms. The plan seems to be on track, as Starwood executives confirmed the partnership for a second time this week now that the Apple Watch has been formally launched. Some reports also suggest that the company is gearing up for a digital check-in experience that is entirely mobile.

Hilton Worldwide has made its own set of waves recently by committing $500 million to mobile initiatives leading up to 2017, and—like Starwood—is announcing plans to launch digital locks, and mobile concierge and check-in services in 2015. These are promising developments that suggest hotel chains are indeed rethinking their technology strategies given the new competitive landscape.

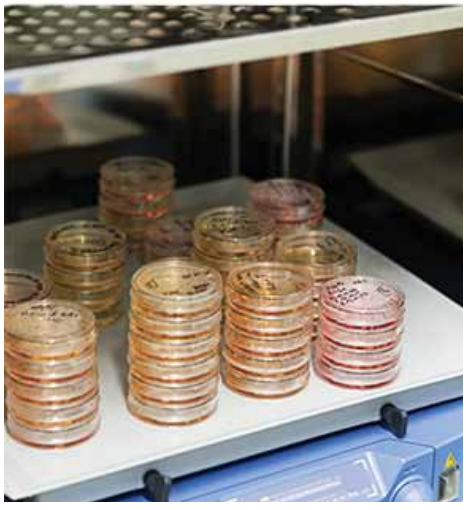
There are a lot of ways for the hotel experience to be empowered by the best of what technology has to offer today. It will be exciting to see how conventional hospitality businesses ultimately draw inspiration from their new nemesis to address changing consumer preferences in this increasingly digital day and age.

Brain Organoids

A new method for growing human brain cells could unlock the mysteries of dementia, mental illness, and other neurological disorders.

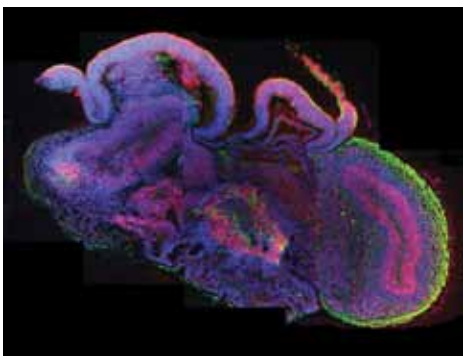
http://www.technologyreview.com/featuredstory/535006/brain-organoids

As Madeline Lancaster lifts a clear plastic dish into the light, roughly a dozen clumps of tissue the size of small baroque pearls bob in a peach-colored liquid. These are cerebral organoids, which possess certain features of a human brain in the first trimester of development—including lobes of cortex. The bundles of human tissue are not exactly "brains growing in a dish," as they're sometimes called. But they do open a new window into how neurons grow and function, and they could change our understanding of everything from basic brain activities to the causes of schizophrenia and autism.



Before it grows in one of Lancaster's dishes, a brain organoid begins as a single skin cell taken from an adult. With the right biochemical prodding, that cell can be turned into an induced pluripotent stem cell (the kind that can mature into one of several types of cells) and then into a neuron. This makes it possible to do things that were impossible before. Now scientists can directly see how networks of living human brain cells develop and function, and how they're affected by various drug compounds or genetic modifications. And because these mini-brains can be grown from a specific person's cells, organoids could serve as unprecedentedly accurate models for a wide range of diseases. What goes wrong, for example, in neurons derived directly from someone with Alzheimer's disease?

The prospect of finding answers to such questions is leading pharmaceutical companies and academic researchers to seek collaborations with Lancaster and Jürgen Knoblich, whose lab at the Institute of Molecular Biotechnology (IMBA) in Vienna, Austria, is where Lancaster developed the organoids as a postdoc. The first of these collaborations was an investigation of microcephaly, a disorder characterized by small brain size, with Andrew Jackson of the University of Edinburgh. Using cells derived from a patient with microcephaly, the team cultured organoids that shared characteristics with the patient's brain. Then the researchers replaced a defective protein associated with the disorder and were able to culture organoids that appeared partially cured.



This is just the beginning, says Lancaster. Researchers such as Rudolph Jaenisch at MIT and Guo-li Ming at Johns Hopkins are beginning to use brain organoids to investigate autism, schizophrenia, and epilepsy. What makes cerebral organoids particularly useful is that their growth mirrors aspects of human brain development. The cells divide, take on the characteristics of, say, the cerebellum, cluster together in layers, and start to look like the discrete three-dimensional structures of a brain. If something goes wrong along the way—which is observable as the organoids grow—scientists can look for potential causes, mechanisms, and even drug treatments.

The breakthrough in creating these organoids happened as part of a side project. Other researchers had grown neurons in a dish before, and like them, Lancaster started by using a flat plate to "play" with neural stem cells—the kind that form into neurons and other cells in the nervous system. Sometimes, she says, "I'd get neural stem cells that wouldn't really stay in 2-D, and they would kind of fall off the plate and they'd make 3-D clumps—and rather than ignoring them or throwing them away, I thought, 'Those are cool—let's

see what happens if I let them keep growing.'" But there was a major challenge: how to keep the tissue at the center of the organoids fed without the benefit of veins. Lancaster's solution was to encapsulate each organoid in a matrix known to nurture cells, put a dozen of these blobs in a nutritious bath, and shake or spin it all to keep the organoids awash in cellular food.

Since publishing her method, Lancaster has pushed the brain tissue to further levels of complexity with neurons at later stages of development. The number of possible applications grows with each advance. Most tantalizing to Lancaster herself is the prospect that cerebral organoids might solve the deepest of mysteries: what happens in our brains to set us apart from other animals? "I'm mainly interested," she says, "in figuring out what it is that makes us human."

Gizmo Talk

Impecca Alert Band monitors brainwaves to detect driver tiredness

http://www.gizmag.com/impecca-alert-band/36558/

When drowsiness sets in on the road, drivers typically open a window and turn up the radio. We've also seen a number of alert systems introduced over the years, including the EyeAlert Driver Fatigue Monitor, which tracks the eye-closure rate of drivers, and Audi has researched putting heart-rate monitors in car seats. The Impecca Alert Band takes a different approach. It monitors brain activity and warns drivers that they are becoming fatigued in advance of it becoming dangerous, giving users more time to do the one thing that helps: stop and take a break.

The Impecca Alert Band is designed to be lightweight and comfortable to wear for long peri...Impecca claims that the Alert Band can provide alerts 3-5 minutes before drivers begin to ...The Impecca Alert Band connects to an accompanying smartphone app to display a fatigue rat...

Like the InterAxon Muse and MeloMind devices that aid focus and relaxation respectively, the Alert Band is a wearable electroencephalography (EEG) headset. It monitors the electrical activity in a driver's brain for signs of fatigue and is reported capable of providing alerts 3-5 minutes before the wearer begins to doze off and fall asleep.

The Impecca Alert Band is designed to be lightweight and comfortable to wear for long peri...

Impecca says that the band itself is lightweight and designed to be comfortable to wear for long periods. It features sensors that rest against the user's forehead and connects to an accompanying mobile app for Android and iOS via Bluetooth 4.0. It is also said to have a battery life of up to 20 hours.

The data collected by the headband is translated into a scale of 0-100 on the app, with 0 meaning that the driver is fully awake and anything above 80 meaning that the level of fatigue is considered dangerous for driving and that a break should be taken. The device can also provide real-time notifications and alarms to a driver's smartphone, family and friends and social networks when monitored fatigue reaches a certain level.

The Alert Band is expected to be available from May of this year at a price of $249.99.

How to Activate WhatsApp Voice Calling

http://gadgets.ndtv.com/apps/features/how-to-activate-whatsapp-voice-calling-670962

WhatsApp's voice calling feature is now available to all Android users. The world's most popular messaging app with over 700 million monthly active users only introduced this feature recently and rolled it out gradually to its Android users. If you are not an Android user, you'll just have to wait a little longer to get this feature. But if you use Android, and haven't yet activated voice calling on WhatsApp, what are you waiting for?

The process isn't as simple as updating WhatsApp to start using the voice calling features. It involves a couple more steps that you need to follow. We've described these below, so take a look to enable voice calling on WhatsApp for Android.

Download the latest version of WhatsApp for Android from here. The latest version on WhatsApp's website is 2.12.7, but if you're downloading from Google Play, ensure that your device has version 2.11.561. Older versions don't support this feature for all users.

Once you have the latest version of WhatsApp installed on your Android phone, ask someone who has WhatsApp calling enabled to make a WhatsApp call to your number.

Multiple users have reported that giving a missed call doesn't work. You'll have to receive the call and wait for a few seconds before disconnecting to activate WhatsApp voice calling.

When the feature is enabled on your smartphone, you'll see a new three-tab layout on WhatsApp, one each for Calls, Chats and Contacts.

Have you used WhatsApp calling on Android? Does the feature work well? Let us know via the comments. For more tutorials, visit our How To section.

Kwiz

Q1 Founded by Paypal employees, what site was bought by google for $1.65 billion?

1. MySpace
2. Flickr
3. YouTube
4. Wikipedia

Q2. Which company has pioneered the animation software "RenderMan"?

1. Pixar Animation studios
2. Google
3. Dreamworks
4. Walt Disney Company

Q3. What was the first home computer that came with a mouse?

1. IBM personal computer
2. Apple Macintosh
3. Gateway 2000
4. None of the above

Q4. Kazuo Inamora is the founder of which company?

1. Kabuyashi
2. Sony
3. Kyocera
4. Pioneer

Q5. Which award is also described as the "Nobel Prize of Computing"?

1. Turing award
2. Times award
3. Webby award
4. MTV awards

Answers of March issue
Q 1. YouTube
Q 2. Pixar Animation studios
Q 3. Apple Macintosh
Q 4. Kyocera
Q 5. Turing award

Tech Trivia

- Developed under Grace Hopper, in the year 1959,COBOL was the first computer program language for business use.
- The original iMAC was blue in colour
- "Antibot" and "Goback" are the software products manufactured by the company Norton.
- A new employee at Google is called Noogler
- E Ink, a kind of grayscale electronic paper is used by Amazon for Kindle use

"Romeo and Juliet met online in a chat room. But their relationship ended tragically when Juliet's hard drive died."

Please send in your articles and feedback to kbytes@kohinoorgroup.co.in

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