



Image Source **The Quint**

## The Versova Clean-up Story

Anand Mahindra is already upbeat. He tweeted “If there is one picture that spells hope for India, this is it. This campaign involved selfless leadership, community spirit and collective effort.”

**M**r. Mahindra was referring to lawyer Afroz Shah who launched a clean-up drive at Versova, one of Mumbai’s dirtiest beaches, a few weeks ago. Afroz has so far drawn more than 2,000 volunteers for this drive which culminated on the World Environment Day on June 5, 2017.

After the clean up, with the help of the community staying there, the volunteers planted 500 coconut trees. Instead of saplings three-year-old plants of about 12 ft high have been planted. Out of these, 100 coconut trees were donated by the United Nations Environment Programme (UNEP).

An *India Times* report quoted Mona Keshwani, a local resident saying: “Our plan is to create a coconut lagoon, with the target of planting 3,000 to 4,000 trees over the next two years. In the first month itself, we have completed planting 500 trees. Each tree will be the responsibility of

### FEATURES 1 - 12

**Elsevier's Michiel Kolman**  
On Indian Research  
The Power of  
Sustainability Science  
**Dhawal Mane**  
Is 2017 GreenBiz Leader

**Shiv Shivakumar**  
& **Anand Kripalu** on  
the Power of Digital  
Governance  
How Strata Doubles  
Landfill Area

### NEWS 13 - 24

**Adidas** To Make 1 Million  
Shoes From Ocean Plastic  
Shareholders of US Energy  
Firms Give Thumbs Up  
**Grundfos India** launches  
Smart Solarz

### Emirates' Drywash Saves 11 Million

**CII** Launches T-Food  
**Bosch** Steps in to Revive  
Bengaluru Lakes  
80 Entries For Finding Last Mile  
Solution for Bengaluru Metro  
Books / Courses / Events

### BookReview

INDIA'S  
COAL  
STORY  
From Damodar to Zambesi  
SUBHOMOY  
BHATTACHARJEE

**Purpose:** To excite Indian businesses, SMEs, executives and students about the immense business opportunity in not only adopting Sustainability as Strategy in their companies but also inspire them to the possibilities of a big market for innovative sustainability products and services.

*Editor* Benedict Paramanand

*Editorial Advisors*

Pradeep Kashyap  
Founder & CEO, MART

Madan Padaki  
CEO, Head Held High

Vasanthi Srinivasan  
Faculty, IIM Bangalore

H.S. Ganesh Keerthi  
Design

Rishabh Media Network  
22, 1st A Main, G M Palya,  
Bangalore - 560 075. India  
Phone - 91 80 41126557/9880602275  
benedict@managementnext.com  
www.sustainabilitynext.in

Information in this publication is drawn from a variety of sources, including published reports, interviews with practicing managers, academia and consultants. While doing so utmost importance is given to authenticity.

www.sustainabilitynext.in

© Rishabh Media Network

Subscribe to

**sustainabilitynext**  
conserve • profit

from

 **MAGZTER**  
DIGITAL MAGAZINE STORE  
TAP • READ • ENJOY

<http://www.magzter.com/IN/ManagementNext-Media-/Sustainability-Next/Business/>

the local community staying there. They will not only take care of it, but will also eat or sell the coconuts. With the coconut lagoon, the beach could become a tourist hotspot."

Afroz's efforts have made the local fisher folk eager to contribute to a cleaner beach

environment. He said: **"Fishermen have become so active that they tick off anyone who tries to litter the sea or the beach. A change has happened — of the heart as well as the mind. I wanted them to guard their ocean and I have achieved it."**

He adds: "This beach takes the load of 10 million people of Mumbai, so the clean-up of Versova Beach can never end. The sea throws up plastic with every high tide. We cleaned years of garbage in 85 weeks (since October 2015) and **removed 5.3 million kilos of plastic and filth. Today, the beach is sparkling clean with 70% less garbage. But one can't be complacent about it as the next high tide will bring a new pile of garbage."**

## How to dispose?

The big question is – what do you do with the cleaned up trash? Won't it go back to the sea since Mumbai does not yet have an extensive waste management system? **Afroz's long term plan is to set up a unit to convert plastic to oil and trash into pallets that can be used somewhere else.**

"The hope for India" that Mr. Mahindra was alluding to was the spirit with which volunteers are showing up all over India for clean-up projects. What the youth need are leaders like Afroz who can inspire them to contribute their time.

It's clear that cleaning water bodies is only the beginning. The municipal authorities and businesses could take the responsibility of disposing of the trash and plastic responsibly. CSR funds could come in handy here as well. Municipal authorities and systems are stretched but the good news is resources are no longer a problem to support voluntary efforts.

Healthy India is possible only with a cleaner India!

<https://www.youtube.com/watch?v=wA9KdBtwmCw>



Afroz Shah



DAMAN AND DIU

G U J A R A T

Daman  
Daman  
Ganga  
River  
Moti Daman

SR-8

SH-185

Vapi

SH-6

SH-5

## THE BATTLE OF THE VAPI LANDFILL WON BY STRATA.



When Vapi Green Enviro Ltd. (VGEL) was battling with the expansion of its landfill without invading any more land, STRATA stepped in to solve the problem. They based their attack on their extensive geosynthetic product catalogue mixed with their technical expertise - and won a one of a kind victory by building the 1st vertical landfill in India.

**HO:** Sabnam House, Plot No. A - 15/16, Central Cross Road B, MIDC, Andheri (East), Mumbai - 400093, India.

**T:** +91 22 4063 5100 | **w:** [www.strataindia.com](http://www.strataindia.com)

**e:** [info@strataindia.com](mailto:info@strataindia.com) | India, USA, Brazil, UK

**CIN:** U17299MH2004PTC148625

  
**STRATA**  
Geosystems (India) Pvt Ltd



# POWERWEEK

• 5 DAYS • 1 CONFERENCE • 6 WORKSHOPS • 1 VENUE

13 - 17 November 2017, Singapore

Designed for the global electric power & energy industry, **POWER WEEK** provides 5 days of networking opportunities, consisting of 2-day conference as the focal event, 6 workshops, multiple case studies, expert views, and valuable insights on market outlook.

Meet your industry peers from electricity regulators, national power companies, renewable & IPPs, investors and suppliers - all at one platform. It would serve as an opportunity to engage with top industry players from around the globe. With the vast range of participants at this exclusive event, learn about the success strategies and pitfalls of well-known power projects, through our intense case studies. With valuable insights on power market economics, policy & regulations, technology transfer, environmental impacts, fuel supply sources, renewable / hydro / gas to power developments, PPAs, investment & financing, energy efficiency, smart grid, energy storage, power contracts and many more from C-level expert speakers & attendees, **POWER WEEK** is certainly an event not to be missed!

This year's conference will address cutting edge topics with **Real Examples** and **Case Studies** including:

| Date                  | Program  |
|-----------------------|--|
| 14 – 15 November 2017 | Power Week <b>Main Conference</b>  |
| 7 – 10 November 2017  | Workshop A:<br><b>Power Purchase Agreement (PPA)</b>                               |
| 13 November 2017      | Workshop B:<br><b>Energy Storage &amp; Smart Grid – Technologies and Solutions</b> |
| 13 November 2017      | Workshop C:<br><b>Solar Financing – Improving Liquidity to Solar PV Projects</b>   |
| 16 November 2017      | Workshop D:<br><b>Power Market Economics – Modelling Tools and Value Drivers</b>   |
| 17 November 2017      | Workshop E:<br><b>Understanding Electric Power Contracts</b>                       |
| 20 – 23 November 2017 | Workshop F:<br><b>Mastering Renewable &amp; Alternative Energies</b>               |

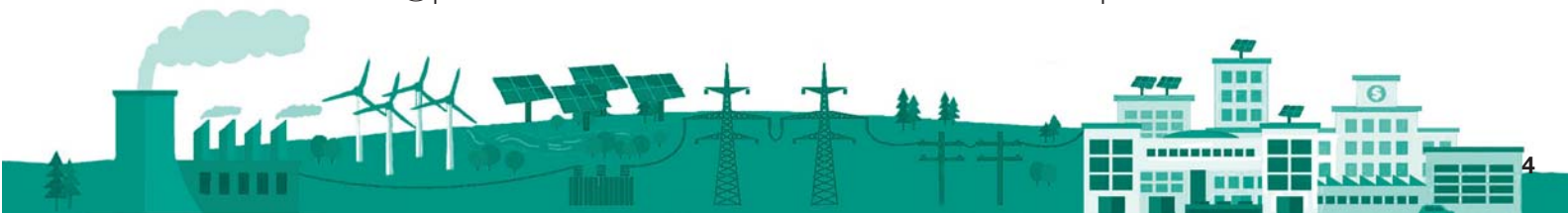
[www.power-week.com](http://www.power-week.com)

Our Supporters & Partners

Produced by



E: reanne@power-week.com T: +65 6325 0254 W: [www.power-week.com](http://www.power-week.com)



# India Needs Major Funding Boost for Research

India needs to invest much more on research if it is to make notable contribution to finding solutions for complex sustainability related problems. The current investments in Indian research are inadequate and stagnating resulting in a corresponding stagnation of India's research output and quality, **Michiel Kolman**, senior VP at Elsevier, told **SustainabilityNext**. Although the quality of research is getting better, there is a clear need for Indian researchers to write collaborative international papers, he added.



**Michiel Kolman**

Mr. Kolman was in India recently to take a peek at India's research landscape and how it can move forward to achieve its scientific and sustainability goals. In his global role, Michiel has advised government agencies and academic institutions on how best to build research excellence. The Amsterdam-headquartered \$2.36 (GBP) billion company, founded in 1880, has a strong presence in India especially in medical journal and book publishing.

"We see a clear correlation that the more you publish internationally with other countries the higher the impact of your research. And India is at the bottom four, with relatively low international co-authorship. India should publish more, internationally co-authored articles," he said. He said there is a big opportunity for India to recalibrate its academic priorities and focus for building a sustainable future.

However, he complimented India on doing better on disaster science research. In terms of citation impact, with 1 as world average, China is at 0.9, below world average, while India is at 2.14, well above the world average. **India is one of the top five countries on research output on earthquakes, droughts, tsunamis, floods and landslides.**

Elsevier launched *Health Care Reforms in India: Making Up for the Lost Decade*, a look at India's healthcare system by Rajendra Pratap Gupta in February 2016. The book documents the development of India's health care sector over the last 65 years and makes the case for political priority and policies for universal healthcare coverage as well as an upstream pre-emptive approach to health through technology deployment and enablement.

In his review, **Dr. Devi Shetty, Chairman, Narayana Health**, said **"I always felt that India will become the first country in the world to dissociate health care from affluence.** Rajendra has shown why it will happen and how it will happen and to some extent, when it will happen. The book makes a profoundly interesting reading with overwhelming data to prove that, for the stability of the society, we need to develop robust health care system with equal participation by the government, private and NGO sectors."



# Why Sustainability Science?

‘Sustainability Science’ as a sub-field of Sustainability is about two decades old. Harvard University was a pioneer when it started the **Sustainability Science Program** in 2000. Its focus has been to drive research, teaching, and interventions on the challenges of sustainable development by **fostering shared prosperity and reduced poverty while protecting the environment**. The Program also promotes the design of institutions, policies, and practices that support sustainable development.

SS is essentially advancing scientific understanding of human-environment systems; Improving connections between research and policy communities; and Building capacity for linking knowledge with action to promote sustainability.

SS’ approach is multidisciplinary, engaging people from the natural, social, health and engineering sciences, and from practical field experience in business, government, and civil society.

The 15 UN Sustainability Development Goals has given Elsevier, a global information and analytics firm, an opportunity to present recent trends in SS research globally, including India. It released its first series of insights into the global research landscape in collaboration with [SciDev.Net](#). The report “contributes to the understanding of sustainability science as a research field and the dialogue between science and society in sustainable development.”

## Core findings

- **Sustainability science is a field with a high growth rate**

In 2009 the total research output of the field was 56,390 and this increased to 75,602 in 2013. This results in a compound annual growth rate (CAGR) of 7.6%, almost twice the average growth rate of all publications in Scopus over the same period. India’s publications in Sustainability Science are growing very fast, 18.2% annually.

- **Research output in sustainability science attracts 30% more citations than an average research paper**

The FWCI of publications in sustainability science in the period 2009-2013 is 1.3 – 30% higher than the world average of 1. The theme Planet leads all other themes in FWCI. Throughout the period it remains stable at around 1.50.

- **Research in sustainability science is highly collaborative and international**

As an example, the USA’s proportion of international collaboration increased from 26.5% of its research output in this field to 32.9%. For countries such as the UK and Germany, around half of their publications in sustainability science are joint efforts by researchers from different countries. Many countries, in particular China and Japan, collaborate much more

intensively in sustainability science than overall. However, the level of collaboration between developed and developing countries in sustainability science is still low.

- **Sustainability science is less interdisciplinary than the world average**

On average, 6.7% of sustainability science publications in the period 2009-2013 belong to the world's top 10% most IDR publications. This number is lower than the world average of 10%. However, the percentage is growing. Across the world, we see an increase from 6.1% to 7.1%.

IDR research in sustainability science focuses on a number of topics. They include health and pollution, water and its social and economic implications, and the economic and environmental impact of energy and fuels.

Download the report (<https://www.elsevier.com/research-intelligence/research-initiatives/sustainability-2015>).

## Break Disciplinary Silos

Prof. P D Jose, who teaches Sustainability and Strategy at IIM Bangalore, thinks that top Indian academic and science institutions still work in silos. He believes that it is high time platforms or networks of Indian institutions are set up so that resources are pooled to address common problems. They would be in a better position to assist policy makers if they are able to provide lasting and economically viable solutions to problems facing cities and rural areas.



Prof. P D Jose

**More than anything he feels that new and disruptive innovations are possible in this sector when diverse disciplines come together to tackle challenging sustainability problems and break the disciplinary silos that pigeonhole academics and academic research.**





1st Row (L-R) Aaron Tartakovsky, Camille Fabre, Jarami Bond, Catherine Queen, Komal Ahmad  
 2nd Row (L-R) Nikki Fraser, David Harary, Niels Fibaek-Jensen, Julia Pyper, Paula Tomasini Ramos  
 3rd Row (L-R) Sarah Robinson, John R. Seydel III, Allie Janoch, Kavickumar Muruganathan  
 4th Row (L-R) Lauren Kastner, Samson Szeto, Lizzie Horvitz, Tariq Al-Olaimy, Dhawal Mane

## Dhawal Mane Wins GreenBiz Leader Award

**G**reenBiz, a leading source for global sustainable business news, has picked **Dhawal Mane** for the '2017 GreenBiz Under 30' award. The award is for shaping the next generation of sustainable business. Dhawal works in the field of sustainable fashion and mainstreaming sustainability in the Indian context.

GreenBiz editors, in collaboration with the World Business Council for Sustainable Development, pick emerging leaders who work across sectors in media, academia, and the non-profit sector, and address the world's most pressing environmental and social challenges effectively and profitably. Dhawal is the only Indian on this list. While studying at the National Institute of Fashion Technology in New Delhi for his master's degree in sustainable apparel production, Dhawal was shocked by the textile sector's side effects. Dhawal hopes this recognition also acts as an inspiration for the next generation of professionals.

Dhawal works with the global fashion retailer C&A to implement its Sustainable Chemicals strategy in the supply chain in India and Sri Lanka. His most rewarding moments come from visiting suppliers who have transitioned to sustainable practices. "Converting them to real action gives you a lot of satisfaction," he says. He also works with a local fashion institute to stitch sustainability into the curriculum and organizes a bimonthly networking event, called Sustainability Drinks Bangalore that connects more than 200 environmental professionals.

Dhawal had also made it to a list 25 Under 25 Global Sustainability Professionals list back in 2014.

LinkedIn: <https://www.linkedin.com/in/dhawalmane/>

Twitter: <https://twitter.com/walmane>





CEO panel discussion at the Digital Governance Summit at IIMB. (L-R) Anand Kripalu, CEO & Managing Director, United Spirits Limited; Prof. Ram Nidumolu, Founder & MD, AIM, and Shiv Shivakumar, Chairman & CEO, PepsiCo India.

## India May Be The Most Populous Nation



**Dr. Ajay Kumar**, Additional Secretary, Ministry of Electronics and IT and head of the Digital India Initiative of the Government of India, says India will soon have clean data especially with Adhaar becoming a de facto digital identification for every Indian.

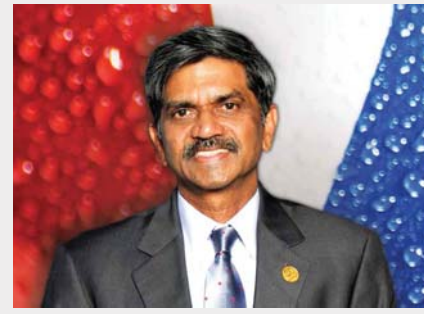
This clean data could throw up surprises. The most likely one is the population data, which he says he won't be surprised if India had already overtaken China as the most populous nation many months ago.

He said the two-year old Pradhan Mantri Jan-Dhan Yojana (PMJDY), National Mission for Financial Inclusion to ensure access to financial services, has already **saved the government an astounding Rs. 50,000 crore**. He expects much more saving and efficiency when all government's procurement is done online. Now, only 60 goods are sourced online. The electronic national agriculture mandi (market) could do the same.

The central government's strategy – **don't automate, transform** – with its digital programs and payment apps such as BHIM and UPI (United Payments Interface) is paying rich dividends.

# Trust More Important Than Truth

**Shiv Shivakumar, Chairman & CEO – India Region at Pepsico**



- Why of a company's reason for existence is more important today rather than what is the reason for existence of the company
- Trust in a product or a company is more important than the truth. In the pre-digital world trust and truth were seen as independent
- Until now consumer was the king but only now, with social media, she has a voice. Firms that ignore this voice and don't respond in real time stand to lose big time
- Not till long ago, a CEO was responsible for around 10 KPI (key performance indicators). With digital it is around 60. Everything a firm does is measured
- In the digital world, like in cricket, where everyone should field well for a team to win, everyone in a firm should be good
- Digital is uniting organizational silos
- Learning agility leads to strategic agility. This will determine future success
- Earn the license to be part of the society every morning in the digital world

# Missing GST Date Costly for Liquor Industry

**Anand Kripalu, CEO & MD, United Spirits Limited**



- Governance is about doing the right thing. Long term success of alcohol business depends on whether we are ethical marketers
- The liquor industry in India has missed a big systemic clean up opportunity because the government chose not to include it in the GST list. There is no political will for doing that. Transparency would have removed gratification
- We cannot control most of our touch points physically any more. The fact that every employee is generating content and speaking about brands everywhere, suddenly the touch points are becoming huge
- Discussions in brick-and-mortar companies about digital is still nascent. We still have not made the leap into a digital business. We are still not in the zone of transforming the business
- CEOs should provide a compelling vision to transform the business
- Hipbar – start-up bar in the cloud – could disrupt the traditional business. USL has invested in this start-up. It's a bit of science and a lot of punt
- With digital becoming all pervasive, ability to build reputation will become harder and harder
- It is important to get agile and structured. We need the dexterity at the same time
- Humility to change and follow if anyone has better idea is important



# Digital Governance Demystified!

**If not done properly, companies face the risk of becoming irrelevant soon**

In his white paper, Prof. Ram Nidumolu, founder and MD of

Academy for Innovation and Management, Bangalore ([www.academyaim.com](http://www.academyaim.com)), suggests that getting serious about corporate digital transformation mean getting serious about corporate digital governance.

Digital governance (DG) is not the same as IT governance which involves ERP and CRM. It is "effective management and control of digital assets that are internet-based and have emerged recently such as social media, mobile, cloud, analytics, internet of things (IOT), wearable computing, etc. Without DG in place, digital transformation are going to be scattered, uncoordinated, and unlikely to be aligned with business strategies and objectives."

Prof. Nidumolu adds: "The biggest and most dangerous risk of all is when emerging digital capabilities can make existing business models irrelevant. The rise of online retail in India and the threat it poses to brick-and-mortar retail is only the most prominent tip of an iceberg that will wreck established businesses that don't monitor if their business is in need of revamping. This monitoring and management of change too is an important aspect of corporate digital governance."

## Benefits of Digital Governance

- Business and digital priorities get better aligned
- Investments in digital technologies and capabilities are used more efficiently
- Decision making is better defined with regard to responsibility and accountability and conforms to standards, policies and regulations
- Digitally-enabled products and services are produced and delivered more effectively
- The customer experience with the digital products and services is improved
- Capabilities of value chain partners are better leveraged
- Reputational risks of digital firestorms are pre-empted or contained

***Watch Panel Discussion Here***

<http://academyaim.com/ceo-summit-iim-bangalore-may-15/>



# How Strata Doubled Landfill Capacity

Strata Geosystems (India) was faced with a challenge – accommodate two more years of landfill in the already brimming space. Expanding of landfill was not an option. Vapi Green Enviro Limited (VGEL) is in the industrial waste storage services business. With greater demand VGEL needed greater storage volume at its existing landfill site to cater to at least two more years. The landfill was in a congested zone and expanding horizontally would be an expensive and unfeasible option. So it asked Strata Geosystems, a market leader in the geosynthetic segment for soil reinforcement solutions in India and across the globe, for a solution.

The construction of landfills is extremely intricate because it is a complex, multifaceted system. It is designed to protect the ground and surroundings from contamination. Given the burden of a lot of toxic material, landfills take years to plan and develop. They are typically divided into areas called “cells” which are designated areas for storing the waste. Conventionally, landfills are constructed with containment dykes with side-slopes (as flat as 1V:3H), and filled with waste within the containment. Due to flat slopes and limited land availability, there are limitations to the height to which these dykes can be constructed. The flat slopes and limited heights impose a severe restriction to the landfill volume. VGEL had very limited space at its disposal for expansion. The conventional solution did not meet the two year requirement.

## Innovative Approach

Thinking out of the box, Strata devised a containment system with a reinforced soil structure, which is a slim, yet safe structure. **The lean structure would generate more space for storage. This vertical expansion was made possible without the need for a voluminous earth retaining structure** The landfill was divided into cells, and each cell was filled one at a time. The first three cells were closed and covered as per statutory requirements. Strata developed Cell 4. To achieve this, it successfully executed the following:

- a) A horizontal spread - “Cell 4 Extension Part 2”
- b) Vertical expansion of Cell 4 “Cell 4 Extension Part 1”

The complete construction involved two of Strata’s innovative systems: **StrataSlope™** and **StrataBlock™**. The inner slope (**StrataSlope™**) that bordered the landfill material was a **StrataGrid™** (polyester geogrids) fascia wrapped around soil bags. This face was draped with a composite of geo-membrane and nonwoven geotextile to prevent landfill leachate from seeping into the containment. Lastly, to provide a maintenance-free structure, Strata provided an aesthetically pleasing outer fascia. **StrataBlock™** (precast segmental concrete modular blocks), in connection with the internal **StrataGrid™** using keys, is the face of the wall, providing a “fortress” look to the structure. The total fascia area of reinforced soil containment system is 6,600 sqm.

## Impact

- **Increased** the total dumping capacity by **2.5 times** conventional methods
- **Cost-effective** by providing more storage revenue within the same land space
- **Aesthetically pleasing**
- **Safe and robust** to withstand differential settlements without distress
- **Rapid construction** with sound systems
- **Minimal maintenance** due to the innovative technologies used

Strata provides end-to-end solutions for soil reinforcement challenges including supply, design, and construction with **StrataGrid™** (geogrid) and **StrataWeb®** (geocells).



# Adidas To Make 1 Million Shoes From Ocean Plastic



**T**he German athletic gear giant Adidas is a long-running a leader in sustainable clothing, and is taking a closer look at how it can manufacture its popular sneakers more responsibly. The result is a partnership with the Parley for the Oceans initiative, which brings stakeholders together to raise awareness about the surging amount of plastic that is accumulating in the world's oceans.

Adidas says its work with Parley rests on a three-point strategy: avoid the use of virgin plastic, gather plastic waste from the environment when possible, and redesign footwear and apparel so that it is both sustainable and performs better. In a pilot last year, the company made 7,000 pairs of athletic shoes from ocean plastic accumulated near the Maldives, reports Business Insider.

**Those sold for \$220 a pair.** Adidas judged the effort a success, and says it now has bigger plans for the latest iteration of its fashion-forward line of upcycled Ultraboost shoes.

Earlier this spring, Adidas, Parley and fashion designer **Stella McCartney** released a white athletic shoe with an upper made from this recycled plastic. And the company told the United Kingdom daily The Independent it plans to manufacture 1 million pairs of Ultraboost shoes made from repurposed ocean plastic this year.

**Each pair of Ultraboost shoes are comprised of an average of 11 plastic bottles salvaged from the oceans, say Parley and Adidas. Recycled PET plastic is used in the laces, heel webbing and lining, as well as the sock liners.**

And Adidas, always in fierce competition with companies such as Nike and Puma, insists this is not a token effort to raise awareness about pollution or to boost the firm's sustainability chops. The company says its recycled plastic shoes are lightweight – and are designed to withstand the demands of athletics while providing the necessary cushioning needed for joints, arches and the Achilles heel.

The convenience of plastic and society's affinity for disposable products have caused mounting plastic waste, which is both overwhelming and depressing, and the problem shows little sign of slowing down. On the flip side, the crisis has brought organizations together to find ways to stop the onslaught of garbage ending up in the oceans — and new ideas for technical solutions are always emerging.

The challenge, however, is scale: Suggestions such as turning recovered ocean plastic into fuel, or even construction materials, are certainly creative approaches. But so far they have not been able to tackle the challenge of cost effectiveness.

The work of Parley and Adidas, however, is compelling on two fronts: These sneakers not only upcycle plastic that otherwise would contaminate beaches and kill marine life, but they also support a campaign that can nudge consumers to think twice before grabbing that plastic item.

<http://www.triplepundit.com/2017/04/another-line-shoes-made-ocean-plastic-adidas-launches-soon/>

**First published in Triple Pundit**

# Shareholders of US Energy Firms Give Thumbs Up to Climate Change Resolutions

After years of investor leadership and engagement on corporate climate disclosure, we're reaching the tipping point. **For the first time ever, a climate risk shareholder resolution received a majority vote at a U.S. energy company** — in fact, a resounding 67% favorable vote at Occidental Petroleum. A few days later, it happened again with a majority vote at PPL Corporation, CERES reported. These resolutions called on fossil fuel companies to evaluate and disclose how their business strategies would fare in a low-carbon economic future.

**"These successes matter not only for improving corporate climate disclosure, but for the signal they send to the entire fossil fuel industry.** They are evidence of the growing consensus among investors and other capital market influencers that the impact of climate change on companies must be analyzed, disclosed, and acted upon."

At ExxonMobil's annual meeting last month a **majority vote of 62% voted** in favor of the fossil fuel giant analyzing and disclosing the risks it faces due to climate change.

"At the start, people thought we were naive or misguided for thinking we could persuade mainstream investors to act on climate. Today, many of the very largest investors in the world are challenging companies on climate change and sending a clear message that **business as usual is no longer an option,**" Ceres said.

Despite US President Trump's decision to pull out of global climate change accord, "it is clear that investors are acting upon the imperative to address climate risks, that the business case for climate action is real, and that **the transition to a low-carbon economy is inevitable.**"

---

## Grundfos India launches Smart Solarz

Grundfos Pumps India Pvt. Ltd. (Grundfos India), the leading manufacturer of energy efficient pumps, launched Smart Solarz, a solar pump for domestic use. The company note states that this solar powered self-priming pump was conceptualized, designed and manufactured in India is lightweight, easy to install. The wet parts of the pump are made of food grade engineered polymers to ensure that it is corrosion free. The Smart Solarz has features like protection against dry run and level controls. The pump has a 150W \ 24V BLDC motor.



Smart Solarz is suited for houses and buildings, which have a ground floor and maximum of two additional floors, especially in areas where the power supply is poor or not available. It is ideal for farmhouses, beach houses, rural and semi-urban areas. It operates with solar panels of 250W / 36V (open circuit). It can be used for water pumping from sump to overhead tanks well as in greenhouses, lawns, gardens, solar powered fountains and for feeding livestock.

For more information call 1800-102-2535.



# Emirates' Drywash Saves 11 Million

Emirates Airlines has announced that its new dry wash cleaning program introduced in early 2016 is saving up to 11 million liters of water every year to clean its fleet of more than 260 aircraft. It said it uses "little to no water" as compared to conventional washing regimens that consume thousands of liters per wash.



Emirates Shows How To Wash An A380 Without Water  
Image Source [Lovin Dubai](#)

Ahmad Safa, Emirates Senior Vice President — Engineering Support Services,

told Gulf News that the airline is doing everything in its power to conserve water as a good sustainable environmental practice. He is quotes saying: "By implementing water-saving techniques we are building on our cumulative efforts across various business divisions to reduce our environmental footprint. "

Over the years, the industry standard to clean aircraft using pressurized water between four to five times every year uses on average more than 11,300 liters of water to clean one Airbus A380 aircraft and more than 9,500 liters of water to clean a Boeing 777 aircraft every time.

To forego the need to spray wash the large fuselages and wings of its aircraft, Emirates since early last year has introduced a liquid cleaner that it applies manually and then allows to dry.

**Similar to a car wax, the dried film is then wiped off and polished by up to 15 staff over a 12-hour cleaning session for the A380 and nine hours for the smaller Boeing 777 body.**

---

## CII Launches T-Food

Over the years, there has been systematic change in cultivation and consumption of food. Though it is necessary to change to cash crops for economics of agriculture and to consume food which is easily and economically available, the overexposure to these non-native crops and food consumption has resulted in negative impact on health of soil and people. It is necessary at this stage to shift back to age old tradition of food consumption.

Looking at the need to create awareness among the public and producers, on sidelines with Foodpro 2017, CII launched, T-Food, a **dedicated pavilion for Traditional Foods, Processing Technologies and some focus of cooking the traditional foods with twist without affecting the nutritional values.**

T-Food is part of a growing movement to bring back Native Traditional Foods. T-Food will bring all stakeholders in one common platform for highlighting & making efforts to promote native plants, culinary traditions and especially traditional food products.

<http://www.ciifoodpro.in/retrospect.php>

# Bosch Steps in to Revive Bengaluru Lakes

As part of its efforts to demonstrate that it is a responsible corporate citizen, Robert Bosch Engineering and Business Solutions (RBEI), the 100% subsidiary of the Bosch Group with 18,000 employees, has drawn up plans to support the government's and the civil society's efforts of rejuvenating lakes in Bangalore. To begin with, it has invested in a compost unit in the 114 acre Madiwala Lake, one of the most pristine lakes in the city.



Inauguration of the compost unit at Madiwala Lake on 6 June 2017

**The compost plant helps shred dry waste, which is usually burnt increasing air pollution, and convert it into compost. The compost is used as manure in the park and the rest is sold. This initiative will help in improving the quality of the plants and the trees in the park.**

RBEI believes that only a public-private partnership model has higher rate of success. This compost plant is in collaboration with the Karnataka Forest Department and Regreen Ventures Pvt Ltd. The revenue earned from selling compost will be used for the maintenance of the park.

As part of its three-year plan RBEI plans to contribute to enhancing the biodiversity of at least 30 lakes in inner Bangalore. The Biodiversity Park at Madiwala Lake is its pilot. R K Shenoy, Senior Vice President, RBEI, said, "We hope this replicable model for decentralized waste management will pave the way for others to join us."

RBEI is banking on its volunteers to drive the lake initiative. Its theme this year is connecting people to environment. "We want more volunteers to connect with the environment. We are also looking at monitoring air quality in the area to inform people how well the area is being managed. This can be used as a networked environment," Mr. Shenoy told **SustainabilityNext**.

**The big beneficiaries are the birds. Madiwala Lake get migratory birds such as Pelicans. Mr. Shenoy believes that "When they travel thousands of kilometers to come here, it is our duty to welcome them, just like we welcome our human guests, with a clean environment."**





## Isro, Tata Motors Develop India's first fuel cell bus

Tata Motors and the Indian Space Research Organization (ISRO) announced the launch of India's first hydrogen-powered automobile bus. The bus was put on display at the Liquid Propulsion Systems Centre, an Isro facility in Mahendragiri in Tamil Nadu on early June 2017. It's the culmination of a ten year research.

**I**t's a CNG-type bus that runs on hydrogen fuel, emitting no pollution. Hydrogen is stored in bottles at high pressure at the top of the bus. The hydrogen cells were a spin-off of the cryogenic technology that ISRO had developed a few years ago. ISRO has mastered space launch vehicle technology that involves producing, storing and handling gaseous and liquid hydrogen in the last three decades.

V Gnana Gandhi, honorary adviser of ISRO, led the technical team in this project. He said ISRO and the Tatas has signed an MoU in 2006 to design and develop an automobile bus using hydrogen as a fuel through fuel cell route. Mr. Gandhi said: "This is a leap for automobile industry for future transportation. In this vehicle there will be zero pollution since the product of cold combustion is water. This is a result of great team work of Tata Motors and ISRO specialists with contributions from DSIR (department of scientific and industrial research) and PESO (Petroleum and Explosive Safety Organisation)."

As hydrogen is emerging as leading contender for the ideal energy options of the future, the Union Government may make this mandatory for all new buses soon.





## 80 Entries For Last Mile Solutions for Bengaluru Metro

80 start-ups have been shortlisted to find last mile connectivity for Bengaluru Metro. The Station Access & Mobility Programme (STAMP) is a joint initiative of World Research Institute, B.Pac, IIM Ahmedabad, Urban Venture Labs and Toyota Mobility Foundation. It is significant that all stakeholders – government, entrepreneurs, public transport operators have put their heads together to find a viable solution.

**Ten start-ups will be short-listed among the 80 for a final pitch. Results will be announced sometime in July.**

This initiative gains importance because Bengaluru's first phase of metro is going live in mid June 2017 with 42 kms network. A key success factor to reduce congestion and drive traffic to metro is providing the last mile connectivity.

Bengaluru's traffic has been a major concern for commuters. It has had a major impact on the health of the citizens.



# 3E Scholar Awards 2017

*Celebrating Educators of 2016-17*

## Nominate Now

For more details visit  
<http://www.3eawards.org>

**Nomination  
Closes on  
31<sup>st</sup> May 2017**

Hosted by



**8<sup>th</sup> July 2017**

**Venue:**

**Delhi, India**

**Email : [awards@3eif.org](mailto:awards@3eif.org)**

**Web : <http://www.3eawards.org>**

## Our Esteemed Jury & Advisor



**Prof. A. P. Dash**  
Vice-Chancellor  
Central University of Tamil Nadu



**Prof. T. V. Kattimani**  
Vice-Chancellor  
Indira Gandhi National  
Tribal University



**Prof. A. K. Das**  
Director  
IIIT, Manipur



**Prof. Kuncheria P. Isaac**  
Vice-Chancellor  
APJ Abdul Kalam Technological  
University



**Prof. Bijender K. Punia**  
Vice Chancellor  
Maharshi Dayanand  
University



**Prof. Nupur Prakash**  
Vice-Chancellor  
Indira Gandhi Delhi Technical  
University for Women



**Prof. Tankeshwar Kumar**  
Vice-Chancellor  
Guru Jambheshwar University of  
Science & Technology



**Prof. Hemanta Baruah**  
Vice-Chancellor  
Bodoland University



**Prof. M. K. Abdul Khader**  
Vice-Chancellor  
Kannur University



**Prof. J. P. Maiyani**  
Vice Chancellor  
Bhakta Kavi Narsinh  
Mehta University



**Dr. R. K. Kotnala**  
Chief Scientist  
CSIR - National Physical  
Laboratory



**Mr. Lokesh Mehra**  
Director  
Workforce Development  
Oracle India

## Partners

Research



Sponsorship



Technology



Online  
Promotion



Media



Media



Media



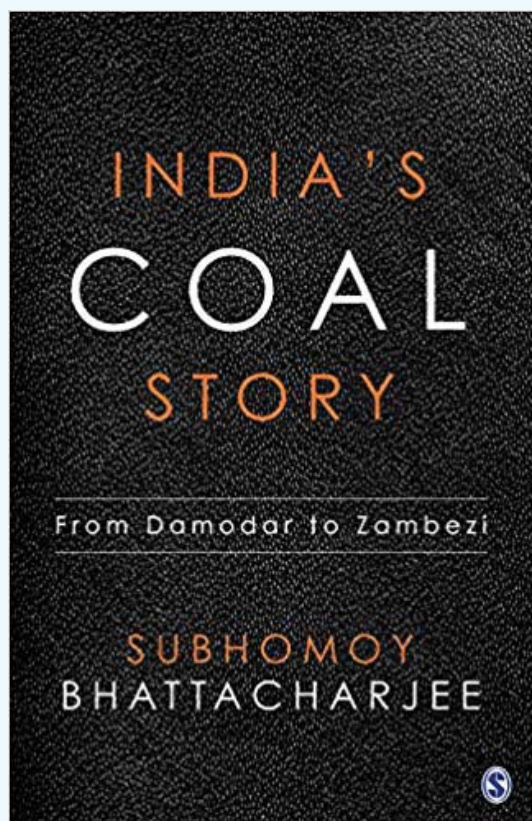
Travel



Travel







India's Coal Story - From Damodar to Zambesi by Subhomoy Bhattacharjee, (Sage Publications India, April 2017) is an entertaining as much as an informative read. But to say that 'Choose not to read it at your own risk' in the blurb is cocky.

It captures the essence of the 'Coal Scam' that blackened former PM Manmohan Singh's face, literally. It's a racy book that does some justice to how India's business history evolved for a hundred years or so.

The humble coal has been very important to India because it is tied not just to power but also to manufacturing especially steel. It's India's ill luck that even though it possesses one of the world's largest coal reserves, the quality of coal is abysmal. This makes import of clean coal imperative, putting immense strain on foreign exchange reserves.

**Despite coal is seen as a dirty mineral, India will continue to depend on coal for at least two more decades for power generation, big advances in renewable energy notwithstanding. The good news is newer technologies are emerging to convert dirty coal into clean coal. The earlier India adopts this technology (thanks to Japan), the better it is for the environment.**

It's good to see India's zestful commitment to the Paris Climate Change accord. This government seems to have the will and the plan to do the right things. Getting the coal story right will be one of them.





# BOOKSHELF



## **Inclusive Finance India Report 2016**

By **M S Sriram**, An Access Publication & Sage Impact, Jan 2017

Inclusive Finance India Report 2016 provides in-depth, well-researched, and well-analyzed evidence on how the financial inclusion agenda has progressed at various levels.

The report covers a review of the performance of diverse institutional initiatives working in inclusive finance—banks, specialized banks, self-help groups, and microfinance institutions. It also covers the initiatives in technology that address last-mile delivery as well as provides an overview of new initiatives.

The report focuses on a larger landscape of financial inclusion while continuing to report progress on microfinance in mainstream financial inclusion activity. It tracks the growth of financial inclusion across institutional structures and delivery models, provides a better understanding of the complexities of the sector, and contributes and informs the policy development process on inclusive finance. It also informs banks and investors, both national and international; highlights key issues that require the attention of the financial sector and policymakers; highlights the positive impact of the sector; and identifies policy and practice gaps on an annual basis. The report involves participation by the RBI, Ministry of Finance, banks, apex financial institutions, technology service providers, business correspondents, and diverse delivery models.

This is the best reference book on the annual trends and progress of the financial inclusion and microfinance sector. It includes data-based analysis of all streams of financial inclusion with the most current information in terms of numbers and developments and is a must read for every practitioner in the financial inclusion value chain.

**M.S. Sriram** is a faculty at the Centre for Public Policy, Indian Institute of Management Bangalore (IIMB), Bengaluru. He is also a Distinguished Fellow at the Institute for Development of Research in Banking Technology set up by the RBI. In the past, he was the ICICI Bank Lalita D Gupte Chair Professor of Microfinance and Chairperson of the Finance and Accounting Area at IIM Ahmedabad; on the faculty of Institute of Rural Management, Anand and was the Vice President (Finance and Information) at BASIX. He has also taught at IIM Udaipur, Solvay Brussels School of Business and Economics, Brussels, and the Azim Premji University, Bengaluru.

Sriram is the coauthor of three books Beyond Microcredit published by SAGE-Vistaar and two books on flow of credit to small and marginal farmers. He also authored the Inclusive Finance India Report 2015.



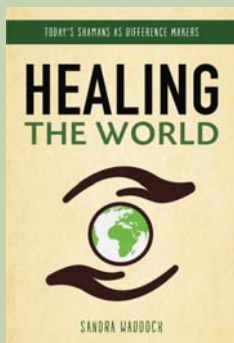
## Responsible Finance India Report 2016: Client First: Tracking Social Performance Practices

By **Alok Misra**, Access & Sage Publication, January 2017

**Responsible Finance India Report** is the sixth annual report that provides an account of developments in responsible finance and social performance in microfinance and financial inclusion in India. The report captures the essence of policy, strategy and practice elements of social/responsible performance of the sector catering to the poor and the excluded. The report analyses the current state of policy and performance of different channels on the globally accepted standards of responsible finance. It assesses the existing practices and products and also documents the new initiatives to present a holistic analysis of the current state of the sector.

The report also highlights the role of policy including lenders and investors in shaping the agenda of responsible inclusive finance and the need for their proactive role in institutionalizing responsible finance practices. Going beyond assessment of current performance of policy and practice, the report identifies emerging risks to client-centricity and customer protection and suggests action for policy as well as institutions to strengthen the state of responsible finance for the excluded and the poor in India. The focus of the report is on capturing sector-wide trends rather than on individual performances.

**Alok Misra**, PhD in Development Studies from Victoria University of Wellington, Master in Development Management (Gold Medalist) from Asian Institute of Management, Manila, is currently Professor, Public Policy and Governance Area at Management Development Institute, Gurgaon.



## Healing the World: Today's Shamans as Difference Makers

by **Sandra Waddock**, Greenleaf Publishing, April 2017

A scientific approach without the ritualistic trappings of most books on shamanism. It is for business leaders, practitioners, or indeed any individual looking to make a difference. It draws from over thirty years' experience as a management professor. *Healing the World* is a book that will get you out of your comfort zone - it will make you think, reflect and hopefully engage. Waddock is a paradigm breaker; I applaud her courage to address the real issues that our civilization is facing from an original and thoughtful angle. This is a book about masters of social healing.

Our world is fraught with problems that demand attention: climate change, terrorism, poverty, and injustice to name only a few. It takes the fundamental teachings of shamans - the healer of communities - and applies them to the problems of today, using terms and concepts that anybody, from business leaders to activists, can relate to and understand.

**Sandra Waddock** is Galligan Chair of Strategy, Carroll School Scholar of Corporate Responsibility, and Professor of Management at Boston College's Carroll School of Management. She recently received the 2016 Lifetime Achievement CSR Award.

## Courses - Degree/Diploma

### **M.A. in Ecology, Environment & Sustainable Development**

Tata Institute of Social Sciences

<http://campus.tiss.edu/guwahati/programs/master-degree-programmes/ma-ecology-environment-and-sustainable-development>

### **M.A. in Labour Studies and Social Protection**

Tata Institute of Social Sciences

<http://campus.tiss.edu/guwahati/programs/master-degree-programmes/ma-labour-studies-and-social-security>

### **M.A. in Social Work**

Tata Institute of Social Sciences

<http://campus.tiss.edu/guwahati/programs/master-degree-programmes/ma-social-work>

### **MA Peace and Conflict Studies**

Tata Institute of Social Sciences

<http://campus.tiss.edu/guwahati/programs/master-degree-programmes/ma-peace-conflict-studies>

### **Post Graduate Diploma in Environmental Pollution Control Technology**

Indian Institute of Environment Management

<http://www.siesiem.edu.in/courses/pgdp.html>

### **Post Graduate Diploma in Sustainable Environment Management (PGDSEM)**

Indian Institute of Environment Management

<http://www.siesiem.edu.in/courses/pgdp.html#post2>

### **LLM (LLM programme with specialisation in Environment and Natural Resources Law and Infrastructure and Business Law)**

teri university

<http://www.teriuniversity.ac.in/llm-programme>

### **M.A. (Public Policy and Sustainable Development)**

teri university

<http://www.teriuniversity.ac.in/masters-in-public-policy-and-sustainable-development>

### **M.A. (Sustainable Development Practice)**

teri university

<http://www.teriuniversity.ac.in/masters-in-sustainable-development-practice>

### **M.B.A. (Infrastructure)**

teri university

<http://www.teriuniversity.ac.in/mba-infrastructure>

### **M.B.A. (Business Sustainability)**

teri university

<http://www.teriuniversity.ac.in/mba-business-sustainability>

### **M.Sc. (Economics)**

teri university

<http://www.teriuniversity.ac.in/msc-economics>

### **M.Sc. (Geoinformatics)**

teri university

<http://www.teriuniversity.ac.in/msc-geoinformatics>

### **M.Sc. (Plant Biotechnology)**

teri university

<http://www.teriuniversity.ac.in/msc-plant-biotechnology>

### **M.Sc. (Climate Science and Policy)**

teri university

<http://www.teriuniversity.ac.in/msc-climate-science-and-policy>

### **M.Sc. (Environmental Studies and Resource Management)**

teri university

<http://www.teriuniversity.ac.in/msc-environmental-studies-and-resource-management>

### **M.Sc. (Water Science and Governance)**

teri university

[http://www.teriuniversity.ac.in/index.php?option=com\\_program&task=program&sno=34](http://www.teriuniversity.ac.in/index.php?option=com_program&task=program&sno=34)

### **M.Tech (Renewable Energy Engineering and Management)**

teri university

<http://www.teriuniversity.ac.in/mtech-renewable-energy-engineering-and-management>

### **M.Tech (Urban Development and Management)**

teri university

<http://www.teriuniversity.ac.in/mtech-urban-development-and-management>

### **M.Tech (Water Science and Governance)**

teri university

[http://www.teriuniversity.ac.in/index.php?option=com\\_program&task=program&sno=33](http://www.teriuniversity.ac.in/index.php?option=com_program&task=program&sno=33)

### **Advanced PG Diploma (Renewable Energy)**

teri university

<http://www.teriuniversity.ac.in/apgdre>

**Send Names & Details About Courses Related With Sustainability to  
ganesh.keerthi@gmail.com**



## Events

### **The STIA+Temenos Effect Gatherings**

28 June 2017, Bangalore, India

<https://www.visiontemenos.com/gatherings>

---

### **Comptelix – 2017 International Conference on Computer, Communications and Electronics**

01-02 Jul 2017, Jaipur, India

<http://irisworld.org/wp/international-conference/comptelix-2017/>

---

### **ICICT – 2017 International Conference on Intelligent Computing, Instrumentation and Control Technologies**

06 -07 Jul 2017, Kannur District, India

<http://vjaei.com/iciict2017/>

---

### **Grid-connected Solar Rooftop PV System: Design, Development and Simulation**

13-14 Jul 2017, Jaipur, Rajasthan

<http://www.teriin.org/management-development-programme/>

---

### **TENSYMP – 2017 IEEE Region 10 Symposium**

14 -16 Jul 2017, Cochin, India

<http://www.tensymp2017.org>

---

### **CII Next Generation Supply Chain 2017**

18-19 July 2017, New Delhi

<http://www.cii logistics.com/nextgen>

---

### **Conference and expo on iOS, Android, App Development, Artificial Intelligence, Virtual Reality, Internet of Things, Deep Learning**

October 5-8, 2017, Bengaluru, India

<https://inomics.com/go/Conference-and-expo-/979741>

---

### **ICIME 2017 9th International Conference on Information Management and Engineering**

October 9-11, 2017, Barcelona, Spain

<http://www.icime.org/>

---

### **Global Science, Technology & Innovation Conferences (G-STIC) 2017 - Student & Research Challenges**

23-25 October 2017, Brussels

[http://www.teriin.org/index.php?option=com\\_events&view=details&sid=917&Itemid=110](http://www.teriin.org/index.php?option=com_events&view=details&sid=917&Itemid=110)

---

### **RDCAPE – 2017 Recent Developments in Control, Automation & Power Engineering**

26-27 October 2017, NOIDA, India

<http://amity.edu/rdcape2017/>

---

### **CICT – 2017 Conference on Information and Communication Technology**

03 -05 Nov 2017, Gwalior, India

<Http://cict2017.org>

---

### **APPEEC – 2017 IEEE PES Asia-Pacific Power and Energy Engineering Conference**

08 -10 Nov 2017, Bangalore, India

<http://www.ieee-appeec2017.org>

---

### **3rd Economics Conference 2017**

10-11 November 2017, Mysore, India

<https://inomics.com/go/3rd-Economics-Confer/994075>

---

### **POWER WEEK**

13 – 17 November 2017, Singapore

[www.power-week.com](http://www.power-week.com)

---

### **iAIM – 2017 IEEE International Conference on Antenna Innovations & Modern Technologies for Ground, Aircraft and Satellite Applications**

24 -26 Nov 2017, Bangalore, India

<http://www.ieeeiain2017.org>

---

### **ICTEE – 2017 International Conference on Transforming Engineering Education**

13 -16 Dec 2017, Pune, India

<http://www.ictee.in>

---

### **59 ISLE Annual Conference**

16-18 December 2017, Thiruvananthapuram, Kerala

<https://inomics.com/59-isle-annual-conference-thiruvananthapuram-0>

---

### **ICPS – 2017 7th International Conference on Power Systems**

21 -23 Dec 2017, Pune, India

<http://www.icps2017.in>

---

### **World Sustainable Development Summit 2018**

February 15-17, 2018, New Delhi

<http://wsds.teriin.org/>

---

### **RAIT – 2018 4th International Conference on Recent Advances in Information Technology**

15 -17 Mar 2018, DHANBAD, India

<https://inomics.com/>

---

### **BioProcess International European Summit**

April 24-25, 2018, Netherlands

<https://inomics.com/go/-BioProcess-Internat/1026975>

---

**Send Your Events Plan to - [ganesh.keerthi@gmail.com](mailto:ganesh.keerthi@gmail.com)**