

# **FiRE**SiDE

The House Magazine of the Thermax Group Volume 46 No.2 April - June 2016



**Editor**  
A.M. Roshan

**Assistant Editor**  
Natasha Rodricks-Naidu

**Design**  
Shashi Karmarkar

**Production & Circulation**  
Vilas Bade

**Printed at**  
Vyoma Graphics, Pune



## About the Cover

“...provide me  
With water to dandle me,  
grass to grow for me, trees to talk to me,  
sky to sing to me,  
birds and a white light in the  
back of my mind to guide me...”

– From *Prayer before Birth*,  
Louis MacNeice

Image by Manasi Nafde,  
Thermax Foundation

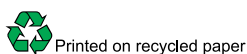
## BACK COVER

New experiences to  
share and stories to  
remember

## Comment

“When the only tool you own is a  
hammer, every problem begins to  
resemble a nail.”

– Abraham Maslow



**Correspondents :** Gauri Kaveeshwar Heating Farhan Kauchali Cooling Mukesh Ghodke Services Noorjahan Khan B&H Vivek Taneja Power  
Varsha Patekar Enviro Abinash Patro WWS Veena Coutinho Chemical N.Haridas TECC Kavita Naidu HR  
Sneha Patil IR S. Chandak Administration Aditi Vakil BTG Jenny Alexander Finance Saheblal Shaikh  
Corporate Safety Kirti Pitale Mumbai Reshma Mehrotra Delhi Swati Aditya Kolkatta Lakshmi Gupta Chennai  
Janki Thaker Savli

Fireside is the quarterly house magazine of Thermax Limited, Pune. For private circulation only. Company related news/features may be reproduced only with the permission of the Editor. Address : Thermax Limited, Thermax House, 14 Mumbai Pune Road, Wakdewadi, Pune 411 003, India. Tel : (020) 25542263 Fax : (020) 25541226  
Fireside is also hosted on the website : [www.thermaxglobal.com](http://www.thermaxglobal.com) Email : [a.roshan@thermaxglobal.com](mailto:a.roshan@thermaxglobal.com) [natasha.naidu@thermaxglobal.com](mailto:natasha.naidu@thermaxglobal.com) [vilas.bade@thermaxglobal.com](mailto:vilas.bade@thermaxglobal.com)

Copyright © Thermax Limited 2016

# CONTENTS

2

## What's New

Thermax commissions 18 MW captive power plant for Jai Hind Sugar ■ Solar thermal system installed at Mother Dairy ■ Waste heat recovery units on a floating vessel in Brazil ■ Thermax heat pumps popular with district heating companies in Denmark

6

## Expressions

In her quarterly column, Meher Pudumjee briefs readers about the company's annual results; reflects on the disruptive technologies that are changing the landscape of industry; and asks employees to focus on productivity and efficiency in everything we do.

8

## Up Close

As a 50 year special, a feature on Thermax Channel Associates, based on a series of conversations with the Corporate Communications team.

12

## Round Up/ Limelight

Thermax chiller heater wins first prize at for energy efficiency at HVAC event. ■ B&H Services monitor Reliance equipment ■ Construction chemicals support military engineering services ■ Technology day celebrations ■ A Hawaiian themed event marks Women's Day celebrations ■ News from China ■ Thermax people go on treks and outbound events ■ and accolades received by Thermax staff and their families.

20

## Beyond Business

A feature on Thermax Foundation's teacher training programme that attempts to improve student learning in Pune municipal schools

22

## Signposts

Excerpt from the book, *The Rise and Fall of Nations*, Ruchir Sharma's book that attempts to make sense of the world after the 2008 crash, with a refreshing blend of original data and anecdotes

31

## Voices

Francoise Shelton from Thermax Europe writes about gaining a second lease of life and garnering support for people like her.

32

## Slice of life

With its caustic take on the workplace, a South Korean mobile based game offers solace to those fired from jobs. ■ Pilgrims reduced to bathing in the sacred waters of a tanker ■ and a literary poster on our untamed selves.



*18 MW captive power plant : Power division's first balance-of-plant for the sugar sector*

## WHAT'S NEW?

# Power to the grid: from Jai Hind Sugar's captive cogen plant

Since the captive cogeneration plant of Jai Hind Sugar Private Limited began exporting power from December 2015, approximately 8900 MWh power upto end March 2016 has been supplied to the grid. Thermax commissioned this sugar plant in Solapur in November 2015.

The scope of the project included design, engineering, manufacturing, supply, construction and commissioning of the 18 MW plant. Thermax supplied a 100 TPH bagasse fired travelling grate boiler, 90 TPH bagasse handling system, electricals, systems

for water treatment, air pollution control and ash handling, while the customer procured the steam turbine generator.

This is Power division's first balance-of-plant order for the sugar industry. It stipulated an aggressive schedule of nine months for synchronisation of the boiler with the steam turbine generator and other balance-of-plant.

In recognition of Thermax's competent execution skills, Jai Hind Sugar issued a cheque of Rs.5 lakh to the project team.

# Thermax solar boiler at Mother Dairy's pasteurisation plant



**T**hermax has installed a non-IBR solar thermal boiler integrated with a furnace oil fired heating system for Mother Dairy, its first for the industry. The boiler generates 330 kg/hr of steam at 17-18 kg/cm<sup>2</sup>(g) pressure for the pasteurisation process at the dairy in Gandhinagar, Gujarat. It reduces the use of fossil fuel.

Concentrated solar thermal (CST) technology used in this boiler makes use of parabolic troughs with mirrors to focus a

large area of sunlight on a small area. The resulting heat produces steam for process heat applications. The project includes a feed water supply system and an automatic solar tracking mechanism.

The project won the CST Technology Excellence Award 2016, instituted by the Ministry of New and Renewable Energy. Mother Dairy received the award from the Union Minister, Piyush Goyal at a function held in New Delhi in April.

## Cooling bags its largest domestic order from IFFCO

**T**hermax has bagged an order from IFFCO (Indian Farmers Fertiliser Cooperative Limited) for five vapour absorption chillers. The chillers shall be supplied to different plant locations of the fertiliser major, for carbon dioxide (CO<sub>2</sub>) cooling and other applications.

While two low temperature hot water driven chillers of 800 TR will support the Aonla unit in UP, a 400 TR system using steam and hot jacket water will be installed at Kalol in Gujarat. Besides a 400 TR chiller for CO<sub>2</sub>

application at Phulpur (UP), a 2000 TR low temperature hot water driven chiller will be used for the niche application of gas turbine inlet air cooling.

Apart from supplying the chillers, Thermax will also be doing Balance of Plant (BoP).

This is the single largest order for the Cooling division's domestic business.



*A Thermax chiller earlier supplied to a fertiliser plant in UP*

*A Thermax heat pump at Karlstad, Sweden: energy efficient and eco-friendly*



## Denmark's district heating companies opt for Thermax heat pumps

In the wake of the Paris Climate conference, there is renewed focus on the role of district heating and cooling systems in sustainable cities. They offer cost-effective opportunities to reduce greenhouse gas emissions while improving energy efficiency.

Since its first installation in 1999, Thermax has been assisting Scandinavian district heating companies with its absorption heat pumps – an integral component in their energy equipment configurations.

The latest order is from Silkeborg heating company that placed an order for two 7000 kW single effect steam driven heat

pumps and two 12000 kW double effect steam driven heat pumps. Other district companies such as Hasle and Hammel also placed orders for hot water driven heat pumps. The orders came through Scandinavian Energy, Thermax's long-standing Danish distributor.

District heating is an energy concept where waste heat from industrial sites and waste incinerators, or underground geothermal heat is used for warming water, used in public space heating networks. Thermax heat pumps absorb heat from these sources and preheat the water delivered to the buildings. This mode of heating is more efficient, cheap and has lower carbon emissions.



*Energy saving on Petrobras FPSO : Thermax systems*

## Waste heat recovery units on Brazil's floating oil installation

**W**aste heat recovery units from Thermax has been installed on an offshore floating facility of Brazil's national oil company, Petróleo Brasileiro S.A (Petrobras). The four units on this floating production- storage-and- offloading (FPSO) vessel recover 27.4 MW each of waste heat from GE gas turbines, for heating water.

The order was placed by Japanese EPC major, Modec Inc. Thermax bagged a bonus

of 80,000 USD for demonstrating excellent project and customer management skills during execution.

Thermax's Boiler & Heater division has commissioned such waste heat recovery units in hydrocarbon installations at various locations such as Sakhalin Island, Asian and African offshore structures and the North Sea.

## Retrofit job for Chambal Fertilisers and Chemicals

**A**fter a gap of 15 years since installing a filtration system, Thermax did a retrofit job on the equipment for Chambal Fertilisers and Chemicals at Kota in Rajasthan.

Thermax was required to supply and install two prefabricated auto valve less gravity filters (AVGF) within a tight delivery schedule. The output from these filters had to be within 2 NTU (nephelometric turbidity units), suitable for the unit's urea and ammonia cooling towers.

Besides completing the site work

for replacement, installation and commissioning of the new AVGFs in a short time, it was the first time the water treatment business had supplied a prefabricated filter.

The WWS team rose to the challenge, and completed the work under stringent quality checks. Though they had just a working window of five hours a day while the plant was in operation, they completed the job five weeks ahead of schedule.

*Thermax's site in-charge, Shanti Paul and a contractor-supplier*





“I do hope that 50 years is the milestone year in which we transform ourselves into a single Thermax entity as far as the customer sees us”.



Every year, the July issue of Fireside has a synopsis of my piece in the Annual Report since both come out at more or less the same time. However, this year, Fireside is coming out a lot later (my apologies to all our readers), hence I have only given a short synopsis of the results.

At our AGM held on 10th August, 2016, I had the privilege of presenting the 35th Annual Report of Thermax. It is the fourth consecutive year that we have been battling an economy where investment in the core sector is yet to revive. This has had a significant impact on our projects business. For the financial year 2015-16, we posted a total revenue of Rs. 4,462 crore, down 5.4% (Rs. 4,719 crore, the previous year) and a profit after tax of Rs. 306 crore (Rs. 336 crore). However, due to healthy export orders carried over from the previous year, exports grew 32.4% to Rs. 1,446 crore (Rs. 1,092 crore).

Let me thank Unny, his senior team and all our employees for keeping the company on course in this tough business environment. I would also like to express my gratitude to our Board members for guiding and supporting the company through turbulent times. Our thanks to all our customers, channel associates, suppliers, business partners and shareholders for your support and continued faith in the company.

India has been hailed ‘the fastest growing economy in the world’ – confined predominantly to sectors of consumption-led growth and the service sector. Although the core sectors of oil and gas, cement and steel will take time to turn around, the SME and services sector see significant potential the world over, which we need to focus on. This would help enhance our product and services businesses.

Our balance sheet is a snapshot of the organisation as on that date.

The P&L paints a picture for the year gone by. However, our future is in our minds and in our hands and we need to be constantly innovating, improving, and sometimes even disrupting the status quo. We just read about the launch of Jio in our very own country. Though it may be too early to work out the impact, it seems telecommunication rates – both voice and data – have been disrupted by one company. A move that will benefit the customer.

At our last Board retreat our guest speaker Uday Kotak gave us a fascinating talk about “disruptions”. We captured the talk into 3Cs –

1. Change is the only constant; the pace of change is exponential and therefore could be disruptive
2. It’s complex out there and therefore seeing connections is important
3. Complacency can kill an organisation.

I also had the opportunity to be invited to a conference in Mumbai a few months ago. It was an eye opener – like going back to Nursery school, thinking “wow” to all that we heard –wow with regard to emerging opportunity, but also feeling some trepidation.

They spoke about the need of the hour being exponential versus linear thinking.

Digitisation, the Internet of things (IoT) and data analytics is changing the world, the way we do business. Look at the banking sector – with IoT and mobile apps, for the customer, there is practically no need for a physical structure called a bank anymore. Apple has disrupted the music, computer and mobile industries. It’s the “winner takes it all” model – and the period of safety for that winner is very short indeed. The beauty of disruption is that it could be a much smaller player with hardly any financial capital who can create it.

This brings me to a small cleaning company in California that has started using analytics to improve efficiency and set prices. It calculates the time taken to mop a square foot; its website guarantees a price quotation in 15 seconds; it has created an algorithm that charges by the data collected of the cleaning site, rather than labour hours. Moreover, it pays a higher hourly wage than its competitors and takes care of the safety of its women workers especially on night duty. An unusual high tech company working in a low tech industry.

Another example is 3D printing which is disrupting manufacturing. With 3D, you reduce material use by up to 90%; it can be done in full colour in many different materials and composites, completely customised and with no inventory. Today, parts of a satellite, jet and rocket engines are being manufactured by 3D printing. Speed in this technology is going to disrupt industry as the speed of 3D printing will possibly be 100 times faster in just five years, collapsing time to market. It's democratising the process wherein individuals can be creators.

We've all heard about Tesla. Owners of Tesla cars recently received a recall notice as a charger plug needed to be fixed because it had been discovered to be a cause of fires. Instead of a product recall, Tesla solved the problem for its 29,222 vehicle owners through a software upgrade. This saved a huge amount of money for the company as well as time and inconvenience for its customers. Quite a novel concept!

We have been a successful organisation thanks to each one of you. But there's a lot happening out there which can disrupt technologies and business models. Let us remember, as someone once said, "things happen much longer than you think they will and then they happen much faster than you thought they could".

Challenges make us think differently. We need to invest, keep our eyes and ears to the ground, and yet dramatically focus on productivity and efficiency – working as a two-speed engine simultaneously. We need a deep insight into our customers and the changes they are making to be competitive in their industry. What distinct value can we constantly add to them?

Internally, we may be Cooling, Heating or B&H division, but to the customer, we are ONE Thermax – and that is how it should be. Recently I met one of our employees from a Services business. We were talking about the market and how competitive it was since the pie had shrunk, when he mentioned that he recently lost an order. He went on for a few minutes, until I realised and was relieved to know that he was upset that he had lost it to one of our own divisions. It's great to be loyal to a business group, but to the customer, we are ONE Thermax.

I do hope that 50 years is the milestone year in which we transform ourselves into a single Thermax entity as far as the customer sees us. I also hope each of us feels that he/she has the right to question why we do what we do and substantially improve our processes, products and services. This is your company – please do not be afraid to do what you think is right for the customer and the organisation.

May I take this opportunity to wish you all a very productive, efficient and innovative year ahead.

Warm regards,  
**Meher Pudumjee**

“The beauty of disruption is that it could be a much smaller player with hardly any financial capital who can create it”.



# Up Close with Thermax

Thermax's Channel partners have played a vital role in taking the company's products and services to diverse markets in India, closer to the customer. As dealers, some of them represented Thermax since the early '80s, and formally became part of its extended sales & service network after Rohinton Aga signed the Service Franchisee agreement with 17 of them in 1987. Following the company's turnaround in 2001, the 100 plus dealer network transformed into the Thermax Channel Associates (TCAs), with a focused Channel Management Group, facilitating from Thermax. In a fruitful partnership, Thermax and its TCAs have grown together. In 2012, 25 years of their association was celebrated.

As Thermax celebrates its 50th year, Fireside spoke to some of them who have been partners of the company over these last three decades. We capture below the gist of our conversations with these successful business stalwarts.

## UP CLOSE

We believe in Rohinton Aga's value system – especially his line that 'our bottom line is not a number but a set of values.'

– Nikhil  
Technochem

Many of Thermax's channel partners are 2nd generation entrepreneurs, beginning their association with the company in the mid '80s : At Parkash Bambhani's Nitasha Constructions (Chandigarh), T.K.Bakshi's Prerana Engineers & Consultants Pvt. Ltd. (Kolkata), K. Mohan's S.S. Chemicals (Hyderabad) and Joseph Zacharias' Cinzac Sales & Services Pvt. Ltd. (Kochi), sons have succeeded their fathers. At C.N.C. Unni's Thermochem Corporation Pvt. Ltd. and Vikas Toke's Vedant Equipment Sales & Services Pvt. Ltd. too, the baton has been passed on to the new generation. Several of these young Channel Associates have either worked or trained with Thermax, before joining their family business.

The contexts of their life with Thermax are as diverse as the regions they come from. Bangalore based Technochem Corporation's C.N.C. Unni began Thermax dealership with Rs. 5000/- taken as a Provident Fund Loan from his wife's office, and a typewriter bought with help from his earlier boss, the eminent anthropologist, Prof. M.N. Srinivas. Joseph Zacharias had been a trained

engineer with Merchant Navy experience and when he began with Thermax, already had an Ashok Leyland franchise. Mohan began his career as a Thermax employee, before venturing out as an entrepreneur.



*Thermochem Corporation's C.N.C. Unni and his family : 1000 customers that includes SMEs and MNCs in Karnataka and Kerala*

The TCAs have grown with Thermax, though only some of them work exclusively for the company. Prerana has customers from smaller segments like confectionary, hosiery and rice mills. Large PSUs like SAIL and IOC also are its clients along with private sector majors like ITC and Unilever. Technochem has a customer base of over

# Channel Associates

1000 in Karnataka-Kerala regions that include Cipla, Appollo and JK Tyres, Pepsi, Biocon and Kitex. Customers get to know the entire product portfolio of Thermax through TCAs, who represent Thermax as “single point service providers for utilities.”

Channel Associates are, indeed, the face of Thermax especially when it comes to the small and medium enterprises (SMEs), who make up a substantial chunk of the market. Bikram Bakshi who took over from his father says that SMEs are “more comfortable with TCAs because of the reach and local presence.” The SME notion that known brands like Thermax only serves big



*Prerana Engineers' T.K.Bakshi and Bikram Bakshi : chosen the Best-Performing TCA in November 2015; operates in Bengal, Odisha and Assam.*

In Kanpur, where Nikhil Technochem Pvt. Ltd. operates, Ranjan Kulshreshtha and his brother Sanjay explain that most of their clients are “non-corporate” where business is more relationship based. For such clients from the SME segment, TCAs are a comforting presence. As Mohan says, even customers who would have wanted to contact the company directly, now realise that “we have an inventory of around 50 lakh and they can get any quantity off the shelf.”

TCAs have helped Thermax reach across to various business segments. Nitasha Constructions has helped position Thermax expertise with Government establishments, especially

the defence sector. S.S. Chemicals helped open up the pharma sector and gain orders from corporates like Dr. Reddy's Laboratory. Vedant has sold reverse osmosis systems to



*S.S. Chemicals' team and (inset) K. Mohan and Manish : Thermax's first dealer in Andhra, an association of over 30 years*

industrial houses has changed, says Unni, as today the customer can “buy from TCAs, a cartridge priced at Rs. 80 and also a boiler of over Rs. 50 lakh value.”

**“Several new generation TCAs have either worked or trained with Thermax before joining their family concerns”**

Innovation  
and product  
differentiation  
hold the key to  
growth  
—Thermochem  
Corporation

villages in Pune District. Cinzac introduced steam boilers in sea food industry in Kerala and pioneered the use of thermic fluid heating for rubber footwear.

TCA's have been active participants at a variety of Thermax events – the Samvād sessions that focus on channel related issue, In-Touch customer meets, and the International

Channel meet of November 2015 where they exchanged notes with the Thermax management and were rewarded for their performance.



*Parkash and Ashish Bambhani of Nitasha Constructions : strong presence in the Government sector in the Northern Region*

The Channel Associates cherish warm memories of their association with Thermax and they have a special regard for Rohinton Aga. Rajan Kulshreshta remembers the initial days when business was conducted “with deep emotions, enthusiasm and fierce support from Thermax.” He talks fondly about Rohinton Aga. “We still believe in his value system – especially his line that



*Ranjan and Sanjay Kulshreshta of Nikhil Technochem : With Rohinton Aga, signing in as Thermax Service Franchisee in 1987*

‘our bottom line is not a number but a set of values.’ C.N.C Unni recalls a chance meeting with Mr. Aga when he came for an AIMA conference. “He considered me like his own employee and discussed market conditions and my problems. I felt wonderful and at the same time, humbled.” Mohan, who works exclusively with Thermax remembers Thermax’s support “we started out from scratch” and declares that he will leave “only if Thermax asks me to quit selling their products.” The support given by Sudhir Vahal, the architect of the present- day Channel network is recalled by several TCAs.

But as in any durable relationship, it is not all nostalgia in sepia tones. Rajan Kulshreshta compares yesteryear’s people- driven



*Vedant Equipment's Vikas Toke and his daughter, Veda : Began with water treatment business and now handles multiple businesses for Thermax*



*Cinzac's Zacharias : Sales, service and Thermax project franchisee; promoted new products in new industry segments.*

company when it was easy to connect with the concerned person, unlike today's "system-driven company" and wonders if "we have lost the emotions in business and are looking for only numbers." Joseph Zacharias also talks about "a sense of disconnect, the difficulty of a one-to-one relationship." He also points out that Thermax needs to be more in "contact with decision makers, national institutions." Perhaps such disquiet reflects the eternal challenge faced by any growing organisation: how does one keep

alive the easy touch and warmth of those early years?

Acutely aware of the changing tone and tenor of markets, Channel Associates are focusing on fundamentals. Cinzac operates with a centralised care centre and its products display its care number. "We contact our customers once a month to check if everything is working well," says Joseph Zacharias. Though it might sound routine, Bikram Bakshi is convinced that for survival and growth, Thermax and TCAs have to continue to be "more service oriented and focus on customer satisfaction." Prerana trains its people on all products and try have people working with them "for the last 15-20 years and they understand business and customers well." Rooting for innovation and in-house manufacturing, CNC Unni would like Thermax, with its vast knowledge base and infrastructure base to be market leader in all its businesses. Parkash Bambhani says, Nitasha Construction, which celebrates its centenary in 2017 would love to be an associate even when Thermax turns 100.

**We contact our customers once a month to check if everything is working well.**

**– Cinzac**

– A.M. Roshan,  
interviews conducted  
by Natasha Rodricks Naidu  
and Vilas Bade



*Thermax Channel Associates with Sudhir Vahal at the November 2015 Conference in Pune: taking Thermax closer to customers in diverse markets*

## Thermax chiller-heater wins first prize as energy saver



*Cooling team  
at the award  
function :  
sustainable  
products and  
solutions*

At ACREX 2016, the HVAC show in Mumbai, Thermax's chiller-heater won first prize in the 'Energy saving' category. This is the second consecutive year that Thermax has bagged the award.

The high efficiency equipment simultaneously provides 1°C chilled water

and 90°C hot water. It saves 40% energy for hot water, and 23% on overall energy. The award recognises Thermax's commitment towards sustainable products and solutions that are energy-efficient and environment friendly.

## ROUND UP

*A growing  
partnership :  
a series of  
successful  
projects*



Since November 2015, Thermax has been Reliance Industries' preferred service provider for inspection of boilers. The decision comes in the wake of a series of assignments that the Boiler & Heater (B&H) business and its service arm have successfully completed for the petrochemical major.

## B&H Services monitor Reliance equipment

B&H Services is executing a project for fuel conversion of seven boilers at RIL's refinery at Jamnagar. It also recently completed Condition Assessment and Remaining Life Analysis of 34 installations. The project covered RIL's facilities at Hazira, Dahej and Jamnagar.

## Scenic Mukutmonipur calling



**Eastern  
Region team :  
a refreshing  
break**

The Eastern region chose the scenic Mukutmonipur for its much awaited break. 280 km from Kolkata, in Bengal's South Bankura, the place is unique for its hills, forest and intersection of two rivers.

The team had a series of exciting events - quiz, globetrotting, treasure hunt, basketball, dance and karaoke. From the eight employee teams, Rio Royals won the first prize while New York Newsmaker finished Runners up.

## Stories and photo sessions on Torna trek



**A day-long  
trek : C&H  
teams  
adventure**

A group of outdoor enthusiasts from the Cooling & Heating divisions went on a day-long trek to the Torna fort. The 28- strong group was a mix of young and old, men and women. They had a great time sharing stories and clicking photos, as they wound their way up.

After a well-earned lunch and a few more photo sessions, they began the descent. "The highlight of the day was the breathtaking sunset as we came down," says, S.O. Mahajan who arranged the trek, along with team leaders, N.K. Bhalerao and S.A. Momin.

*Thermax  
Chemicals :  
assignment  
for MES*



## Construction Chemicals for Military engineering services

The Construction Chemicals team recently conducted a technical presentation for engineers of the Military engineering services (MES) at Tughlakabad, Delhi. Over 50 engineers from MES attended the presentation on 'Latest repair & rehabilitation techniques'.

The presentation from M.S. Venkatesh and Bhooshan Dixit was well received.

The chemical team is already doing assignments for MES and has successfully completed projects in Lucknow, Jaipur and Mathura.



*Every drop counts : paint and spread the word*

## Paintings celebrate the theme of conservation

Thermax employees at the company's Environment House participated in a painting contest organised by the HR group. They came out with interesting works on the theme, 'Every drop matters'.

The paintings are exhibited in the office of the Special Products Group of the Water and Wastewater Solutions (WWS) business.

## Technology Day 2016 honours innovators and ideas



Technology Day celebrations on 11<sup>th</sup> May provided the context to honour winners of the prestigious Dr. N.D. Joshi innovation award. From 56 entries, the jury chose two major innovations for the top award – from the Heating and Cooling businesses of Thermax.

While the Heating team got the award for the 'Development of a cost effective miniature boiler with underfeed stoker'. Cooling bagged the top award for developing 'Ultra low pressure water driven vapour absorption machine'. Both teams received a cash prize of Rs. One lakh and a certificate from Prof. M.S. Anand, a renowned academician.

10 other teams from various business groups were awarded under the Thermax Innovation Award and Appreciation award categories.

Preceding Technology Day celebrations, over 100 employees across divisions participated in a variety of exciting events – Prastuti for showcasing ideas on emerging technologies such as the Internet of Things, Big Data, etc.; Rangmanch, an exposition of ideas and situations presented in theatric form; and Constructo challenged engineers to build from waste.

Enviro lifted the rolling trophy for overall participation and number of wins in the contests.

**Meher felicitates  
Prof. M.S. Anand, chief  
guest at Technology Day  
celebrations**



*The winners of the Dr. N.D. Joshi Award with Prof. Anand*

## Customer appreciation for TECC's commendable safety performance

*Thermax  
Construction team  
at a Reliance site :  
safe project practices*



**T**hermax Engineering Construction Company (TECC), the construction arm of the Boiler & Heater business has won appreciation from RIL for its safe project practices.

The subsidiary company has achieved 13 million safe man-hours at Hazira and 7 million safe man-hours at Dahej, where Thermax is executing a major boiler project for Reliance.

Over 8000 people are working at these sites and more than 68,000 MT of material has been handled till January 2016, under stringent safety regulations.

TECC has diligently established a safety culture at the sites by focusing on training and education of teams, both its own and contractors' employees.

*A representative  
aerial view of the  
National Iranian  
Oil Company :  
Thermax client*



## In Iran, over 100 chillers and counting

**A**dding to its list of over 100 chiller installations in Iran, Thermax recently bagged two more major orders.

National Iranian Oil Company (NIOC), Government-owned placed an order for five direct fired Thermax chillers. The

corporation will use them for air conditioning at three different locations.

Thermax will also supply two steam-driven chillers to Emam Reza Hospital, which is a reputed centre for education, research and treatment in Iran.

## 25 years of Akanksha: Education for social change



*Akanksha staff and children with Anu Aga : bridging the gap in education*

Akanksha Foundation, Thermax's NGO partner, recently celebrated its 25<sup>th</sup> year of service in the field of education. The journey started in 1991 with a small learning centre in Mumbai with 15 children and one teacher. This centre became the starting point for Akanksha's future work to bridge the gap in the learning levels of the students coming from the economically weaker sections of society.

In 1999, Akanksha started its first learning centre in Pune with support from Thermax. In 2007, Thermax Foundation and Akanksha tied up with Pune Municipal Corporation to adopt its first municipal school, K C Thackeray Vidya Niketan.

Akanksha now runs twenty schools, reaching out to over 6000 students in Mumbai and Pune. Five of them in Pune are supported by the Thermax Foundation.

## Aloha, Sakhi!



*Celebrating Women's Day : Shared stories*

Sakhi, the forum for women in Thermax, celebrated the International Women's Day with a Hawaiian theme. Across the company, women shared their

personal stories, spent time with others. While some performed on the theme, 'Women as Multitaskers', elsewhere, groups danced to filmy music.

## ICCI-2016 : Focus on Turkish energy markets

*Cooling team  
with other  
participants :  
promoting  
renewable energy*



The Cooling business participated in ICCI 2016, an International Energy-Environment Fair and Conference, at the Istanbul Expo Center in April 2016. Thermax highlighted its co-generation and tri-generation projects, innovative process cooling solutions.

The three-day event that promotes solar and renewable energy markets in Turkey and neighbouring countries, had over 340 exhibitors and over 16,000 professional visitors.



*A safety  
demonstration  
in progress :  
integrating  
concepts in  
work culture*

## Celebrating safe work practices

Thermax celebrated the 45<sup>th</sup> National Safety Week at all its project sites, manufacturing facilities and offices from 4<sup>th</sup> to 11<sup>th</sup> March 2016.

Through awareness campaigns, the week-long celebration reaffirmed employee commitment to safe work practices throughout the year. It highlighted the integration of occupational safety and health

concepts in work culture and overall life style.

The safety theme was 'Strengthen safety movement to achieve zero harm'. Popular participation was marshaled through demonstrations of safe work practices, contests for spreading awareness and awards to honour exemplary practitioners.

## Technical seminar by Thermax China



**T**hermax Zhejiang (TZL) held a technical seminar in March in Chongqing to promote its vapour absorption systems. Engineers, technocrats, HVAC experts and customers came together to share their experiences of using Thermax's sustainable absorption technology.

Wang Junqiang, the area sales manager

of Sichuan, introduced Thermax to the participants – its history and culture, achievements and the company's milestone projects in China. The participants evinced interest in the company's offerings, especially about triple effect chillers with high COP.

## Technical training programme for Saudi Arabian companies

**T**hermax Chemical has recently conducted a technical training on Tulsion Ion exchange resins for two of its clients in Saudi Arabia – Sipchem and Maaden, petrochemical units.

Around 40 people from their utility departments attended the four-day training held in August. It covered applications of Thermax resins used at their demineralisation (DM) plants installed for their facilities.



*Some of the participants with the Thermax team at the programme: training on Thermax's ion exchange resins*

Narendra Waykole, Head, Ion exchange resins and Mohammed Qureshi from Thermax, along with Nilesh Belsare and Hrishikesh Dani of Yusuf Bin Ahmed, Kanoo (Thermax distributor in KSA for Resins) conducted the programme. The Thermax team received appreciation certificates from the customers.

# Train your teachers to help children learn

In her first grade class room at the Maharishi Harkadas School, teacher Faimeen Patel had a visitor – her Principal. “He dropped in to see how the children were faring. He was pleasantly surprised that all my students could read well.”



*Teach them to read : learning in action*

The teacher’s comment may not be surprising if we consider that a 2010 Report from the Ministry of Human Resource Development

government schools have come to represent all that’s wrong with our school education, in a government school in Maharashtra, how did Faimeen bring about change in her classroom? She was a participant at the Leadership Institute for Teachers (LIFT), the year-long professional development programme for teachers from government schools and a few low income private schools.

LIFT has been designed and implemented in-house by the Thermax Foundation. The programme began in 2013 following discussions the Foundation had with the Education Board of the Pune Municipal Corporation to improve the quality of government schools. The designers of LIFT knew of another finding from the same Ministry report cited earlier: out of the 5.2 million teachers

at both elementary and secondary levels, 7.72 lakh have no teaching certification and over 2.5 lakh teachers are under qualified. A large number of in-service teachers haven’t received pre-service training.

From its own experience of working with municipal schools, Thermax Foundation was convinced that professional development of teachers plays a vital role in improving student learning. So, the programme focused on helping teachers of government schools upgrade their skills and become more effective.

Over the last three years, LIFT has trained 220 municipal school teachers in Pune. Faimeen Patel was one of them to attend the 21 days of training conducted over several weeks. She is happy to be the harbinger of change, and happier to share the good work.



*LIFT at work : Helping teachers to be more effective*

indicates that 52% of Standard 5 students can’t read Grade 2 level text. When

BEYOND  
BUSINESS

“All the other teachers have been asked to visit my class and observe how I implement LIFT reading and writing strategies,” she says.

For LIFT trainers, students are at the heart of everything that they do, centered on providing them an excellent education. Everyone stands to gain – teachers become more competent, children learn better and in a virtuous cycle, the overall educational system is strengthened.

Ganesh Jadhav, teacher at Sant Gadge Maharaj, a PMC school, explains, “LIFT taught me how to handle a classroom packed with students, and today I am confident of accomplishing any task effectively. It has expanded my horizon.”

For the Government school teachers it is a daily struggle, faced with the complex challenges of classroom management, instruction, curriculum, parent relations, etc. They are left to themselves to find answers to these challenges. It is here the structuring of the LIFT programme becomes relevant. The 21 days of professional development training happens in the context of in-service teachers’ daily work, making it effective in strengthening their class room practices.

A dedicated Programme Manager for a group of 12-13 teachers mentors them through observation, specific suggestions for improvement and trains them to be effective in their classroom. The training focuses on developing their mindset and pedagogical skills. LIFT also provides teachers a platform called ‘Shikshan Jaatra’ to reach out to larger network of teachers and share with other teachers innovative methods from their classroom.

LIFT has collaborated with STIR (Schools and Teachers Innovating for Results) and the University of Roehampton, London for ‘Teacher innovator Award.’ In the last one year, 53 teachers have received this award for best practices in class rooms. “I am glad



***Changing mindsets : A mentor with teacher trainees***

that the training our teachers received from LIFT and the Roehampton Certification have motivated them and instilled leadership qualities,” says Vasanti Kakade, Chairperson, Shikshan Mandal, PMC.

This year, Thermax Foundation has signed a three- year partnership with Integrated Child Development Scheme (ICDS) under the Ministry of Women and Child Development to launch the ‘Aakar Pune’ project. It aims to train a cadre of ICDS, child development project officers(CDPO) and supervisors who will be implementing Aakar curriculum for the first time in Maharashtra state impacting more than 50000 children from over 1400 aanganwadis in Pune.



***Thermax Foundation partners with ICDS : impacting over 50000 children***

# Impermanence of global trends: the world after the crash of

# 2008

Ruchir Sharma's *The Rise and Fall of Nations* is an attempt to make sense of the world after the crash of 2008. Using original research data from his years at Morgan Stanley Investment Management, Sharma offers guidelines to forecast possible scenarios for nations struggling through these years of slowing growth and mounting unrest. An extract from the book, hailed as "a pioneering field guide to understanding our impermanent world."

**I**n the years BC — before the crisis of 2008 — the world enjoyed an unprecedented economic boom that extended from Chicago to Chongqing. Though the boom ran for only four years and its foundations were thin, many observers saw it as the beginning of a golden age of globalization. Flows of money and goods and people would continue to expand at a record pace, increasing wealth and spreading it as well. More poor nations would enter the ranks of the rich nations. More of their citizens would escape poverty and earn a comfortable living, narrowing the gap between the 1 percent and the

rest. With their newfound clout, the rising global middle class would put pressure on dictatorships to loosen censorship, hold genuine elections, and open up new opportunities. Rising wealth would beget political freedom and democracy, which would beget greater prosperity.

Then came 2008. The years BC gave way to the years AC. After the Crisis, the expectation of a golden age gave way to a new reality. Hype for globalization yielded to mutterings about "deglobalization."

The big picture is complicated and contradictory, because not all the flows that

globalization traditionally describes have slowed or reversed. The flow of information, as measured by Internet traffic, for example, is still surging. The flow of people, as measured by the number of tourists and airline passengers, is rising sharply. But overall the number of economic migrants moving from poor countries to rich ones has fallen, despite the heated controversy that broke out in 2015 over Muslim refugees from Syria and Iraq. And the flows of money that most directly influence economic growth — capital flows between nations and trade in goods and services — have slowed sharply.

Nations have been turning inward, rebuilding barriers to trade and fencing themselves off from their neighbors. In the 2010s, for the first time since the 1980s, global trade has been growing more slowly than the global economy. Big international banks have pulled back to within their home borders, afraid to loan overseas. After surging for more than three decades, flows of capital reached a historic peak of \$9 trillion and a 16 percent share of the global economy in 2007, then declined to \$1.2 trillion or 2 percent of the global economy — the same share they represented in 1980.

When money dries up and trade recedes, so does economic growth. National economies often suffer recessions, but because there are always fast-growing nations somewhere in the world, the global economy rarely shrinks as a whole. The International Monetary Fund therefore defines a global recession not in terms of negative GDP growth but in terms of falling income growth, job losses, and other factors that make the world feel like it is in the grips of a recession. According to the IMF, there have been four such instances: in the mid-1970s, the early 1980s, the early 1990s, and 2008-9. In all four cases, global GDP growth fell below 2 percent, compared to its long-term growth rate of 3.5 percent. Global

growth also dropped under 2 percent in 2001, when the U.S. tech bubble burst. For practical purposes, then, it can be said that there have been five worldwide recessions since 1970, and they had one thing in common. They all originated in the United States.

But the next global recession is likely to be “made in China,” which in recent years has risen to become the world’s second largest economy and single largest contributor to annual increases in global GDP. In 2015, owing to the slowdown in China, the global economy grew at a pace of just 2.5 percent, and by year end was teetering on the brink of another recession. China’s slowdown is hitting fellow emerging nations particularly hard. Excluding the Middle Kingdom, the other emerging nations are growing at an average pace of barely above 2 percent, which is slower than the much richer economy of the United States. The average income of these poor and middle-class nations is no longer catching up to that of the world’s leading economy. From Brazil to South Africa, emerging economies are falling down the development ladder. The sense of possibility created by rising global prosperity has transformed into a scramble to find a survivable niche.

This is a world disrupted. The hope that prosperity would beget freedom and democracy has faded as well. Every year since 2006, according to Freedom House, the number of countries registering a decline in political rights has outstripped the number registering an increase. In all, 110 countries,

**Today the acronym, BRICs, used for the most-hyped emerging nations of the 2000s – Brazil, Russia, India and China – is often qualified with an adjective like broken or crumbling, or dismissed as a “bloody ridiculous investment concept...”**

**Impermanence  
of global trends:  
the world  
after the crash of  
2008**

more than half the world's total, have suffered some loss of freedom during the past ten years. The number of democracies has not changed dramatically, but repression is on the rise even in countries, like Russia, that keep up the appearance of elections. Few observers argue anymore that prosperity in China will lead to democracy. They point instead to the rise of a new and increasingly assertive form of authoritarianism, led by Russia and China and marked by regimes that reject democracy as a universal value while defending softer forms of political repression as expressions of unique national cultures.

The big blow to global prosperity and political calm came around 2010, as the economic slowdown spread from the United States and Europe to the emerging world. In the previous decade, the world had seen an average of about fourteen episodes of major social upheaval each year, but after 2010 that number shot up to twenty-two, fueled in many cases by growing middle-class anger at rising inequality and at aging regimes that had grown corrupt and complacent in the comfortable BC era.

The first big wave of revolt came in the Arab Spring, when protests fueled by rising food prices stirred hopes that new democracies would take root in the Middle East. Those expectations were dashed by the return of dictatorship in Egypt and the outbreak of civil war from Libya to Syria. By 2011, the revolts were spreading to the bigger emerging nations. These protests were driven by economic grievances compounded by the global slowdown: by inflation in India, political cronyism in Russia, and wages and working conditions in South Africa. This unrest culminated in the summer of 2013, when millions of people joined demonstrations in cities across the fading star economies of Brazil and Turkey.

The American playwright Arthur Miller once observed that an era has reached its end “when its basic illusions are exhausted.” Today the illusions of widening prosperity that defined the pre-crisis era are finally spent. The last to die was the faith that China's boom would last indefinitely, lifting up countries from Russia to Brazil, from Venezuela to Nigeria, which had been thriving mainly by exporting commodities to the Chinese. Ever-growing demand from China would drive a “super cycle” of rising commodity prices and growing wealth from Moscow to Lagos. This story line began to strain credulity by 2011, when prices for copper and steel started to fall. It collapsed completely in late 2014, when the price of oil dropped by more than half in a span of months.

Nothing illustrates the impermanence of global trends better than the fate of the most-hyped emerging nations of the 2000s, Brazil, Russia, India, and China. Marketers rolled them into the acronym BRICs, to capture the idea that these four giants were poised to dominate the global economy. Today the acronym is often qualified with an adjective like broken or crumbling, dismissed as a “bloody ridiculous investment concept,” or reshuffled into a new acronym like CRaBs, to capture how ungainly China, Russia, and Brazil look now. In the AC era, the annual GDP growth rate of China has fallen from 14 percent to private estimates of less than 5, of Russia from 7 percent to negative 2, and of Brazil from 4 percent to negative 3. Of the original BRICs, only India has any hope of growing anywhere near as fast in the 2010s as it did in the 2000s.

The unease of the AC era has been magnified by the rosiness of the preceding boom and by the fact that so few observers saw the crisis coming. The world looked forward to endless good times and instead got hard

times. It anticipated rising demand from the emerging middle class and instead, in many countries, got falling demand from an angry middle class. In this tense global scene, the standard fear of inflation has given way to fear of deflation, or falling prices, which in some cases can be even more damaging for economic growth.

The hot names of the BC era have fallen deeply out of fashion. As money flows dried up and reversed, the currencies of emerging nations have weakened sharply. After attracting positive flows of capital every year since record keeping began in 1978, the emerging world saw an outflow of capital for the first time in 2014 and in 2015 the dam burst, with a massive outflow of more than \$700 billion. This sudden loss of funding makes it more difficult for these nations to pay foreign debts. Many emerging nations that fought hard to dig their way out of debt are relapsing, becoming troubled borrowers again. At the height of the BC-era boom in 2005 the IMF had conducted zero rescue operations and looked about ready to fold its bailout business, but it came roaring back in 2009 and since then has been launching ten to fifteen new assistance programmes each year, from Greece to Jamaica.

As the sluggishness spread, the old hunt for the next emerging-world stars gave way to a realization: Economic growth is not a God-given right. Major regions of the world, including the Byzantine Empire and Europe before the Industrial Revolution, have gone through phases stretching hundreds of years with virtually no growth.

At Goldman Sachs, researchers looked back 150 years at countries that had posted long runs of subpar growth and had seen their average income slip relative to their peers. They found ninety such cases of stagnation that lasted at least six years, including twenty-six that spanned more than ten years. These

stagnations are not as famous or well-studied as the postwar Asian growth “miracles” that ran for decades and lifted Japan (before 1990) and some of its neighbors to rich-nation status. But stagnations are at least as common as miracles and are perhaps more relevant to the AC era.

It’s vital to understand that even the business cycle cannot be relied on to revive nations in a predictable, linear way. Once an economy contracts beyond a certain point, it can lose its capacity to self-correct. In the sluggish AC era, the new fear is that some nations may now be stuck in this condition.

The fleeting and difficult nature of strong growth is now plain to see, and it raises a simple question. How, in an impermanent world, can we predict which nations are most likely to rise and which to fall? What are the most important signs that a nation’s fortunes are about to change, and how should we read those signs? To help navigate the normal condition of the world — an environment prone to booms, busts, and protests — this book outlines ten rules for spotting whether a country is on the rise, on the decline, or just muddling through. Together the rules work as a system for spotting change. They are most applicable to emerging nations, in part because those nations’ economic and political institutions are less well established, making them more vulnerable to political and financial upheaval.

### **Pattern Recognition: The Principles Behind the Rules**

A few basic principles underlie all the rules.

**Arthur Miller once observed that an era has reached its end “when its basic illusions are exhausted.” Today the illusions of widening prosperity that defined the pre-crisis era are finally spent.**

**Impermanence  
of global trends:  
the world  
after the crash of  
2008**

The first is impermanence. At the height of the 2000s boom, a variety of global forces — easy money pouring out of Western banks, spiking prices of commodities, and soaring global trade — doubled the growth rate of emerging economies. The scale of the boom was unprecedented — by 2007, the number of nations expanding faster than 5 percent reached one hundred, or five times the postwar norm — but forecasters assumed this freak event was a turning point. Extrapolating from existing trends, they figured that if all the hot economies stayed hot, the average incomes of many emerging nations would soon catch up or “converge” with those of rich nations.

This form of straight-line forecasting was hardly new. In the 1960s Manila won the right to host the headquarters of the Asian Development Bank (ADB) based in part on the argument that fast growth in the Philippines made it the future of Asia. By the next decade, under the dictatorship of Ferdinand Marcos, growth was stalling, but the ADB headquarters was in Manila for good. In the 1970s similar exercises in extrapolation led some American scholars and intelligence analysts to predict that the Soviet economy was destined to become the largest in the world. Instead, it collapsed at the end of the 1980s. By then forecasters had handed the next century to Japan, but it became the next economic star to falter.

None of that prevented a new round of excitement in the early 2000s, focused on the rise of the BRICs, or BRICS (some included South Africa in the group), and the commodity super cycle. As the hype was peaking around 2010, the historical pattern for commodity prices — which tend to boom for a decade, then fall for two decades — was about to reassert itself. Today talk of these nations fulfilling their destinies as regional economic powerhouses seems like a dim memory.

Recognizing that this world is impermanent leads to the second principle, which is to never forecast economic trends too far into the future. Trends in globalization have ebbed and flowed ever since Genghis Khan secured commerce along the Silk Road in the twelfth century, and the cycles of business, technology, and politics that shape economic growth are short, typically about five years. The election cycle, too, runs for around five years on average, and it can usher in reform-minded leaders with the potential to shake up stagnant economies. As a result, any forecast that looks beyond the next cycle or two — five to ten years at most — is likely to be upended. It also makes nonsense of recent talk of the coming Asian or even African century.

Predictions for the next twenty to one hundred years cannot possibly be fulfilled when new economic competitors can arise within five years, as China did in the early 1980s, as Eastern Europe did in the 1990s, and as much of Africa did in the 2000s. In any five-year period, a new technology can spring seemingly from nowhere, as the Internet did in the 1990s and as new digital manufacturing techniques like 3-D printing are doing now. In the postwar period, even the twenty-eight longest periods of “super-rapid” growth — in which per capita GDP was rising faster than 6 percent a year — have lasted less than a decade on average. So the longer a streak lasts, the less likely it is to continue.

The tendency to believe good times will last forever is magnified by a phenomenon known as “anchoring bias.” Conversations tend to build on the point that starts (or anchors) them. In the 2000s, people who handicapped global economic competition came to believe that double-digit annual GDP growth was normal for China and that a rate of more than 7 percent was standard in

emerging economies. Those super high rates were unprecedented but came to anchor the conversation. In 2010 the notion that the emerging world was about to see its average growth rate drop to 4 percent was so far below the anchor that it would have seemed implausible, even though 4 percent is the average growth rate of emerging economies in the post-World War II era. In general, the correct anchor for any forecast is as far back as solid data exists, the better to identify the most firmly established historic pattern.

The habit of hanging on to a poorly chosen and improbable anchor is compounded by the phenomenon of “confirmation bias,” the tendency to collect only the data that confirm one’s existing beliefs. During the runaway optimism of the 2000s, there was a lot of confirmation bias in hype for the BRICS, but in most periods the prevailing intellectual fashion is pessimism. That is certainly the greater risk today, when it is hard to convince people that any nation has a chance to rise, given the rough global conditions. The question to ask, in any period, is not the typical one: What will the world look like if current trends hold? It is, rather, what will happen if the normal pattern holds and cycles continue to turn every five years or so? In a sense, the rules are all about playing the right probabilities, based on the cyclical patterns of an impermanent world...

In countries like Brazil and India, one often hears the argument that if the government focuses too narrowly on economic growth, then health, education, and other measures of human development will suffer. But this is a false choice. The countries with the lowest per capita income also tend to have the worst human development records. Every year the UN puts out a Human Development Index (HDI) ranking countries by educational measures like years of schooling, health measures like life expectancy, and basic

infrastructure measures like access to running water and electricity. A nation’s overall rank on the HDI often aligns very closely with its ranking for per capita income, which is the result of its long-term growth record. India, for example, ranks 135 out of 187 countries on the latest list. Only ten countries with lower per capita income rank higher for human development. Only five countries with higher per capita income rank lower for development.

India has risen in the rankings, but only as its economy grew. Back in 1980, when there were only 124 countries on the HDI, India ranked one hundredth. Over the subsequent decades, India’s economy expanded by 650 percent, while the global economy expanded by less than 200 percent, and as a result India climbed in the HDI rankings. It now stands at eighty-ninth among the original 124 countries, up eleven spots. However, countries with stronger economic records made bigger gains. China’s economy expanded by 2,300 percent, and its HDI ranking climbed 30 places, from ninety-second to sixty-second. These gains are not confined to the poorest countries, either. South Korea’s economy expanded by 700 percent, and its HDI ranking rose 30 places, from forty-fifth to fifteenth. There are of course exceptions. However, if a country focuses on growth, development will follow.

**Any forecast that looks beyond the next cycle or two—five to ten years at most—is likely to be upended. It also makes nonsense of recent talk of the coming Asian or even African century.**

(Excerpted from Ruchir Sharma’s *The Rise and Fall of Nations*)



Senthilkumar

## Senthilkumar, certified energy auditor

**S**enthilkumar Sankaralingam is now a Certified Energy Auditor. The certification is awarded by the Indian Government's Bureau of Energy Efficiency, which promotes energy conservation.

Senthilkumar who works with RTIC is a mechanical engineer from BITS-Pilani. He began his career at the Heating Division as a graduate trainee in 2008. After completing his MS in Mechanical Engineering from the University of Kentucky, USA he rejoined Thermax in 2012.

Senthilkumar enjoys travelling, movies and reading detective novels during his leisure time.



## Navnitkumar completes MBA in finance

**N**avnitkumar Parikh from Savli completed his MBA in Finance from MS University of Baroda. For his final year project, he did a dissertation on 'Working capital management at Thermax'.

Navnit has a BE in Mechanical Engineering. Since 2009 he has been with the welding department in Thermax's manufacturing facility at Savli. He received a Diploma from the International Institute of Welding in April 2010.

Navnit likes to read books and travel.



Navnitkumar



## Srijani among top rankers in SSC Board Exam

**S**rijani Adhikary was ranked 13<sup>th</sup> in West Bengal's Secondary Board Exam. She secured 95.8% from the Ramakrishna Mission Sister Nivedita Girls School, Kolkata.

Srijani has plans to pursue a career in research as a scientist. She likes to write and paint. She is the daughter of Munna and Swapan Adhikary, working with the Chemical division in Kolkata.



Srijani

## Anmol bags the 1<sup>st</sup> prize in Robocon Junior 2016

**A**nmol Bamane and his 9<sup>th</sup> standard school mates won the top prize for designing and building a drone at the 4<sup>th</sup> Robocon Junior 2016 competition. It can be used for surveillance of any remote areas and was made under the supervision of their teacher.

Organised by Vishwashanti Gurukul MIT, the competition held at Pune's Balewadi Stadium had participation from 250 students from 102 schools.

15 year old Anmol, studying at Angel High School and Junior college at Loni Kalbhori, is into computer programming and intends to make a career in robotics. He is the son of Anuradha and Santosh Bamane from C&H Services.



*Anmol Bamane*

## Mohil joins IIT Madras

**M**ohil Chaudhari has joined IIT Madras to pursue a graduate course in Mechanical Engineering. After scoring 93.5% in the HSC board exam from Bharati Vidyapeeth Balewadi, Pune, he stood 2062 in the all-India ranking in JEE advanced 2016.

Mohil, son of Chhaya and Vinaykumar Chaudhari from Power division, likes swimming and chess.



*Mohil Chaudhari*

## Soham bags 2<sup>nd</sup> prize in science exhibition

**S**oham Jog bagged 2<sup>nd</sup> prize in the inter-school science exhibition organised by Prajnana Prabodhini English Medium School, Chikali. He is a 4<sup>th</sup> standard student of Jnana Prabodhini Navnagar Vidyalaya, Nigdi.

Soham likes to sing natya sangeet, plays harmonium and enjoys playing cricket. He is the son of Minakshi and Sujit Jog from Thermax Engineering Construction Company.



*Soham*



*B R Shelar*

## B.R. Shelar presents at an Indonesian university

**S**helar from Thermax Indonesia gave a technical presentation on 'pollution control and power generation' at the Universitas Muhammadiyah Sumatera Utara, Medan. The presentation in response to the university's invitation to share Thermax's expertise in energy and environment was attended by the dean, faculty and students during their National Seminar for mechanical engineering.

Samuel, Thermax's area sales manager of Medan, supported the presentation in Indonesian Bahasa language.

Shelar joined Thermax as a GET in 2000 and has been with the Indonesia office since April 2015. He likes computer programming and long drives.



*Prajakta*

## Prajakta performs Arangetram

**P**rajakta Dhoble recently had her Bharatnatyam Arangetram after completing her degree course in the dance. She has been a student at the Bharat Gayan Samaj Institute, Pune.

Prajakta also ranked 2<sup>nd</sup> at Pune MIT's final year diploma course in computer engineering, and is now pursuing a degree course in the same discipline.

She is the daughter of Vaishali and Devendra Dhoble from Corporate Administration.



*Ram Jha*

## Ram Jha's research paper at CTI

**R**am Jha has presented a research paper at the Cooling Technology Institute (CTI), USA. His paper on 'Computational fluid dynamic analyses of recirculation due to wind on cooling tower' earned him 10 professional hours of USA.

CTI is a code formulating body, for cooling tower, water treatment and air cooled condenser among others, like ASME, BS or ASTM, its codes are accepted world-wide.

Ram, who has also contributed technical articles to several trade publications, joined Thermax in May 2012 in Thermax SPX. Recently, he moved to WWS division. He loves trekking and river rafting.

I joined Thermax Europe Ltd. in June 2008 to manage the accounts and general administration at the London office. With increasing activity, the job profile has changed but working a small team is still hands-on, very varied. The diversity of our contacts in Europe and beyond also allows me to make use of my home language, French.

Born in France, where most of my family still resides, I came to England at the age of 20 to improve my English and chose to remain here. I have three grown-up children, all pursuing careers of their own.

I enjoy going on walks with walking groups and friends during my spare time. We set out on weekends to cover 10 to 15 km, and I sometimes take off on solitary walks to the Chilterns, a wooded region in Northwest London. Besides this, I also support a national charity called Brain Tumour Research to raise funds and awareness, a charity I discovered after being personally affected by the disease in early 2007.

At the time, I ran my own company with my ex-husband and since our children were my full-time responsibility, my focus was on the kids and work. I was showing signs of dysfunction but I put off seeing a GP until I began having trouble finishing sentences.

The GP initially diagnosed a nervous breakdown but my daughter Fenella, then in her second year of medical school, realised that what affected me was not psychological but neurological. While still managing to work, I deteriorated further over the next two weeks – violent headaches, forgetting to manage bank transfers for the employees' salaries, and even simple things such as using my mobile phone.

On 13th February 2007, Fenella found me unconscious in bed. The paramedics rushed me to hospital where a CT scan revealed an enormous tumour, covering almost ¼ of the brain and pressing on the frontal right lobe. That explained the personality changes I was displaying. I was then put in induced coma and transferred to John Radcliffe Hospital in

Oxford. That night, a grade 1 Meningioma tumour was completely removed through surgery.

After two days, I refused to take morphine because it gave me horrible hallucinations. The downside was the intense pain. Recovery was slow but I think my natural determination helped me through it. I reacted badly to a medication that prevented seizures and was readmitted to hospital. The last thing to return was the walking, hence my keenness in walking now. When I resumed work six weeks after the surgery, I was exhausted after just three hours of work.

To this day, I still have slight twinges on the side where the tumour was, a small reminder that it really happened.

By the end 2007, I resigned from my company. I joined Thermax initially part-time, and then full-time. I moved on slowly thanks to my children who inspire me. I am grateful to be alive.

In the UK, shockingly, the 5-year survival rate for brain cancer patients is just 14% and more children & adults under the age of 40 die of a brain tumour than any other cancer. Yet brain tumour research is woefully underfunded and I try to participate in as many fund raisers for it as possible.

In April 2011, I took part in a 10,000 feet freefall tandem parachute jump and most recently in May 2016, I abseiled Portsmouth Spinnaker Tower in another event.

However, my life turned upside down once more in September 2014, when I lost my left kidney due to a large grade 4 cancerous tumour. Therefore, when a year later, I took part in an annual 11 miles awareness canal walk with family and friends of brain tumour patients, as it had a true double meaning for me. I now endeavour to participate every year as long as I am able. I am looking forward to another walk this month and I am grateful to Thermax Europe for sponsoring it. My contribution remains modest, but it helps me to make sense of having survived.

## About survival and long walks

### VOICES



– **Francoise Shelton**  
Thermax Europe,  
London

## Let go and have the last laugh

When Lee Jin-po was laid off last year for the third time in as many years, the 29-year-old mobile-game programmer from South Korea expressed his frustration in his own instinctive way: He made a mobile game about it. In Mr. Lee's "Don't Get Fired!," the object is to rise through the ranks at a nameless corporation by performing an endless string of mind-numbing tasks, while avoiding a long list of fireable offenses. "It's just like real life," he says.

In South Korea, where youth unemployment has hit an all-time high amid sluggish economic growth, "Don't Get Fired!" has become a certified hit—one in a small raft of mobile games that has found success by embracing the drudgery and absurdity of work.

The game is free to play. After landing an internship at a nondescript office, the goal is to appease higher-ups by scurrying from manager's desk to manager's desk, piling up work while fending off requests from various bosses to attend daughters' birthday parties or to fetch a cup of coffee.

Source: Wall Street Journal



## SLICE OF LIFE

## A river fed by water tankers

He stood poised at the edge of the Ramkunda, in prayer-like posture at this ancient bathing ghat in Nashik, perhaps the holiest spot on the river Godavari. Then he went down on his haunches and bathed – in the sacred waters of a tanker.

Welcome to Maharashtra's water crisis – in the very source region of the mighty Godavari.

The historic Ramkunda went dry in April 2016 for the first time in 139 years. For over two months since then, it has been kept alive by pouring water from 60-90 tankers a day into it. In short, Maharashtra is pouring tanker water into a river.

Says Kamlakar Akolkar who combines the roles of press photographer and purohit in this town whose economy is driven by religious tourism. "There's been 20 years of deforestation. Our green cover is gone."

– Adapted from P. Sainath's  
'The sacred waters of a tanker'  
(People's Archive of Rural India)

A poster to remind us...



There is no denying the wild horse in us

VIRGINIA WOOLF

# 35th AGM: keeping faith in tough times



The 35<sup>th</sup> Annual General Meeting of Thermax was held at YASHADA, Pune on August 10, 2016. In her presentation, Meher Pudumjee highlighted key projects of the company, business concerns and challenges in global markets.

She thanked all the stakeholders for keeping their faith in the company in a tough business environment.

As usual, the AGM had its usual ingredients : rain outside, shared information and insights, friendly conversation.



# New experiences to share and stories to remember



At the Bhathena camp for Thermax children, this year too there was a mix of outdoor activities and interesting sessions. They had a chance to feel the excitement of watching wildlife at Kanha-Bhedaghat (MP). While Savli organised a fun wildlife camp at the Gir national park, Chennai and Delhi organised one day excursions, respectively, to a sea side resort and a water amusement park.

Besides a visit to the Ajanta-Ellora World Heritage sites, the children also got to explore their creative side at the art & craft workshop and at the drum circle session. There was also a session on nutrition to teach them about healthy eating habits.

The camps, organised by HR every year, add to the magic of growing-up years.

