

ROTOTALK

Quarterly Newsletter of Society of Asian Rotomoulders

CONFERENCE ISSUE

Editorial Comment

Fifteenth is a special number signifying a decade and half of StAR Annual conferences which established signposts for the Indian rotomoulding industry. Prior to the coming of a trade association, the Indian rotomoulding industry had been inward looking and sequestered in outlook and structure. The hidden potential was yet to be tapped as the success story of the industry and its association unravelled over the years. The conferences, year after year, brought quintessential international exposure with better technologies encompassing better processes, better engineering, better aesthetics and more. As we look back at a phase of growth and evolution punctuated by StAR annual conferences the role they have played is indeed historic.

Dear Reader

There was a sense of achievement when StAR celebrated its 10th anniversary on the white sands of Goa sending out sky lanterns into the night sky at the Gala Dinner of its 2013 conference. The occasion was even more symbolic as it was an ARMO conference. For it was the transition of the Indian rotomoulding industry emphatically into the international sphere which was the cause for greater celebration.

The next five years have witnessed the maturing of the industry as realisation dawned that discernible change could genuinely come about by switching to the necessary ingredients for Better rotomoulding – better materials, machines, processes and above all a new mindset. The bottom line of rotomoulding enterprises had to change and this was helped by the new conditions. There was no denying the fact that bread and butter for the industry had been low end, low tech water tanks. When blow moulding threatened to eat into the predominant tank market of rotomoulding it answered with better quality and better moulding technology for new product applications and if it was to be water tanks then the quality there had to be beyond the reach of blow moulding.

The mindset has definitely changed as the industry is gladly welcoming the setting up by StAR and BITS – Pilani Goa of a **Rotational Moulding Centre for Education and Research** which will ensure a methodical and systematic approach to long term growth and development of the industry.

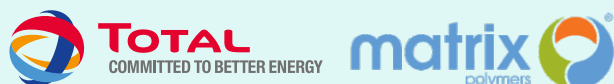
StAR is now getting ready to get set on its journey for the next 15 years at the StAR 2019 Annual Conference at Kochi from January 23 to 25. It invites Indian and global rotomoulding to come and **Rotate for Success in the Tropical Paradise**.

S B Zaman
StAR Executive Director

Mukash Ambani
StAR President

StAR 2019 ANNUAL CONFERENCE & TRADE SHOW

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WHAT IS NEW WHAT YOU CAN LEARN FROM THE KOCHI CONFERENCE

Entire StAR Board of Directors are excited to welcome you to the StAR 2019 Annual Conference and Trade Show in KOCHI, Jan 23 to 25, 2019.

The first day, Jan 23, will offer four Workshops, these will be interactive where attendees get to participate, ask questions, discuss – give their inputs. The four one hour sessions will run concurrently and repeated four times, so everyone can attend all workshops e.g

- ✓ Underground Tank Standards: draft review for inputs
 - ✓ FEA Analysis: A Case Study
 - ✓ RMCER – Roto Moulding Center for Education & Research: A StAR + BITS Venture
 - ✓ What's your problem / question – an open conversation...
- On Jan 24 & 25 a number of timely &

thought provoking presentations will be delivered by world renowned speakers. Automotive: Challenges & opportunities due to Euro VI norms by 2020 and e-mobility; and Manufacturing for automotive sector. Processing: DTH – direct tool heating, a world of possibilities; and Relating wall thickness to processing & machinery. Materials: Creating competitive advantages through better materials; Super-linear polyethylene; unlimited multilayer roto possibilities; metallocene PE for structural parts; special polyolefin composites with natural fillers for flame retardance & more. New products: Underground electrical junction boxes; and New product through specially developed compounds. Powder: Myths of rotomoulding “25 mesh vs 36 mesh; and prime vs recycle”. Economics & advantages of buying good quality powder vs pulverising

in-house. **Other:**

Graphics & decorations for rotational moulding; Shop floor metrics for continuous improvements & vsolar power sustainability with energy savings; and Foaming for structural strength + creep testing by BITS, Dr. Sachin Waigaonkar. A bigger more engaging Trade Show is scheduled on all three days - Jan 23 to 25.

Refreshment breaks & lunches will be held around the trade show area. Besides additional trade show time allotments on all three days: 3 to 5 pm on Jan 23; 3:30 to 5 pm on Jan 24; and 3 to 4 pm on Jan 25. Encouraging and enabling networking and information collection & exchange.

As always, entertaining and fun Social Events are planned: Networking reception & dinner on Jan 23; and Gala dinner, awards & entertainment, rich in Kerala culture, on Jan 24.

Please contact StAR staff, both S. B. Zaman and Jitender Rana are eager to help with registration and any questions that you may have.

Looking forward to seeing you all at the conference in Kochi, Kerala - God's own country!

RAVI MEHRA

Conference & Program Chairman
maramehra@aol.com

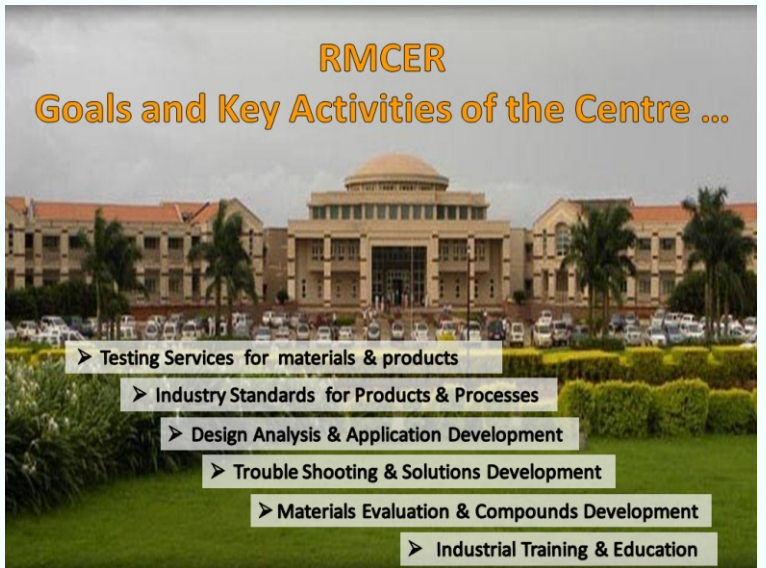
FRI – JAN 25:

CONFERENCE PRESENTATIONS + TRADE SHOW

- 9:30 – 11:00: Conference Presentations
- 11:00 – 11:30: Refreshments Break / Trade Show
- 11:30 – 13:00: Conference Presentations
- 13:00 – 14:00: LUNCH / Trade Show
- 14:00 – 15:00: Conference Presentation
- 15:00 – 16:00: Trade Show Closing / Refreshments served
- 16:00 – 18:00: BOARD CLOSING MEETING.....

RM CER

Rotomoulding Centre for Education & Research (RM CER) jointly set up by StAR and BITS – Pilani Goa has been in a process of consolidation since its inauguration on 21st July '18. Set up with Goals & Activities envisioned to strengthen education and R&D infrastructure for the industry.



On January 22 the first combined meeting of the RM CER Operating Committee, International Advisors and Industry Advisory Council will be held at Kochi. It will be the first opportunity for the key decision makers and advisors of RM CER to exchange ideas, plan and strategise for growth and development of this important new "centre" to fulfil its many onerous tasks.

The Industry Advisory Council is in a formative stage and StAR is looking forward to welcome interested and influential members of our industry to the meeting as prospective members of the council.

CONFERENCE PROGRAMME HIGHLIGHTS

THE THEME OF THE CONFERENCE : Rotate for Success in the Tropical Paradise sets a positive tone, covering a breadth of interesting rotomoulding aspects to build a programme in an idyllic setting well suited to explore and deliberate.

StAR 2019 FLOW OF EVENTS

TUE – JAN 22:

- 12 noon – 15:00: StAR Board Meeting
- 15:00 – 17:00: RM CER PLANNING & REVIEW MEETING
- 19:00 – 21:00: DINNER: Board + Invited Guests

WED – JAN 23:

“WORKSHOPS + TRADE SHOW Networking Dinner”

- 09:30 – 10:30: Workshop – Session I
- 10:30 – 11:30: Workshop – Session II
- 11:30 – 12 noon: Refreshments Break
- 12 noon – 13:00: Workshop – Session III
- 13:00 – 14:00: LUNCH
- 14:00 – 15:00: Workshop – Session IV
- 15:00 – 17:00: Trade Show Open / Refreshments served
- 19:00 – 22:00: Networking Dinner

THU – JAN 24:

“CONFERENCE PRESENTATIONS + TRADE SHOW GALA DINNER”

- 09:30 – 11:00: Keynote Address & Conference Presentations
- 11:00 – 11:30: Refreshments Break / Trade Show
- 11:30 – 13:00: Conference Presentations
- 13:00 – 14:00: LUNCH / Trade Show
- 14:00 – 15:30: Conference Presentations
- 15:30 – 17:00: Trade Show / Refreshments served
- 19:00 – 22:30: Gala Dinner - Thanks / Awards and Entertainment

WORKSHOPS

The four Workshops being held on Jan 23 are on highly relevant topics and in an interesting format.

The Workshops are:

- ✓ Underground Tanks Standards; Draft review for inputs - By S Dave, Consta Cool & Team
- ✓ FEA Analysis: A Case Study - By R Waykole, Design Consultant & Team
- ✓ RM CER: By Ashish Baheti, Vectus Industries & S. Bhand, BITS Pilani Goa
- ✓ What's Your Problem / Question? An open conversation by U Savadekar, Phychem Technologies & Team

All the attendees of the day will get a chance to attend one session of each of these workshops; four 1 hour sessions will be held in all. The interactive sessions on topics of current rotomoulding interests and activities at StAR are likely to be very engaging experience for those attending.

CONFERENCE PRESENTATIONS

The selection of Topics & Speakers for conference presentations on January 24 & 25 has kept in mind the positive theme of the conference and the varied interests of the attendees; to cover what is current in Indian and global rotomoulding:

- **Creating Competitive Advantage through better materials**
By: Martin Coles, Matrix Polymers, UK
- **Super Liner polyethylene, a new level of balance**
By: Peter Mackrell, Matrix Polymers, UK
- **Unlimited multi-layer possibilities in rotational moulding**
By: Geert Vaes, Total Petrochemicals and Refining, Belgium
- **Metallocene polyethylene solutions for structural parts**
By: Saugata Chaudhuri, Total Petrochemicals, India
- **Automotive: Euro VI norms in India by 2020, e-mobility in India**
By: Celal Beysel – Floteks, Turkey
- **Electrical underground junction boxes, a missed opportunity**
By: Celal Beysel – Floteks, Turkey
- **DTH – direct tool heating, a world of possibilities**
By: Martin Spencer, Unique Roto, UK
- **Manufacturing for the automotive sector**
By: Martin Spencer, Unique Roto,
- **Design of Rotomoulding Product based on Fracture Mechanics Approach**
By: Dr. Vikas Chaudhari, BITS Pilani K K Birla Goa Campus
- **Special PE & PP composites with natural fillers for flame retardance & more**
By: Marek Szostak, Poznan University, Poland
- **Myths of rotational moulding: “25 mesh Vs 36 mesh” and “prime Vs recycle”**
By: Ravi Kadivar, Greenage Industries, India
- **Shop floor metrics + Solar power sustainability & energy savings**
By: Bill Spenceley, Flexahopper Plastics, Canada
- **Case study on new products with new special materials**
By: Gary Lategan, Rotosolutions, South Africa
- **Economics & advantages of ready to use quality powder vs pulverizing own**
By: Gary Lategan, Rotosolutions, South Africa
- **Label free graphics for rotomoulding; flexibility & efficiency**
By: Konstantia Asteriadou, Lysis Technologies, UK
- **Relating Wall thickness to Process & Machinery**
By: Dhanu Patell, Reinhardt Rotomachines, India
- **Foaming for structural strength; and Creep testing**
By: Sachin Waigaonkar, BITS Pilani Goa Campus, India

TRADE SHOW

The Trade Show of StAR Conferences in recent years has not only attracted exhibitors from India and abroad in growing numbers; it has also become one of the main activity hubs of the conferences. With lunches and tea / coffee refreshments being served within the trade show enclosures during all the breaks and dedicated sessions the variety of contemporary displays now keep buzzing with lively attendees interest.

Rich Kerala Art, Culture And Natural Beauty



JOIN NOW.... GROWING LIST OF PARTICIPATING COMPANIES

Use of open enclosures in the last and forthcoming conferences ensure great freshness in the ambience. With leading Indian and global suppliers consistently participating in these shows quality of a high level is generally assured.

The list of exhibitors for Kochi is already featuring some leading names. Octanorm stalls by the main meeting ball room on one side and an expansive waterfront on the other makes for a truly refreshing setting. The Networking Dinner on Jan 23 evening is the first of two social events of the conference which will provide premium networking opportunities apart from appropriate and memorable wine, food and entertainment. Both the events have special waterfront scenic night view as ambience which takes a very typically beautiful hue in the tropical paradise that Kerala is. Live soft lilting music from traditional instruments will keep you company on the networking evening.

On the Gala Dinner evening of Jan 24 you will find yourself wearing in the best of traditional attire presented to you while watching the rich colour of art Kerala and culture unfold on stage through an entertainment programme consisting of spectacular dances and martial arts acts. Sponsors thank you and other recognition awards will be presented.

ENTICING KERALA

No shortage of options for Kochi sightseeing and Kerala tours. For good reason Kerala is called God's Own Country, Waterfalls, backwaters, houseboats, green forests, hill stations, plantations, wild life reserves... simply name it and Kerala offers the best.

StAR can help you get in touch with the right people to plan your sightseeing & tours.

CURRENT EXHIBITORS LIST

- Total Petrochemicals, Belgium
- Matrix Polymers, UK
- N. A. Roto Machine & Molds, India
- Egyptian European Company
- Greenage Industries, India
- Alok Masterbatches, India
- Reinhardt Roto Machines, India
- Persico S.p.A, Italy
- Lysis Technologies, UK
- Mplast, India
- RotoSolutions, South Africa
- Arihant Plast, India
- Phychem Technologies, India

StAR ANNUAL CONFERENCE & TRADE SHOW 2019 - Floor Plan,
23rd to 25th January, 2019 : The GATEWAY Hotel Marine Drive Ernakulam, Kochi

	1	2	3	4	5	6
Entry From Ball Room						
	12	13	14	15	16 Principal Sponsor	
	11	10	9	8	7 Principal Sponsor	
Entry From Ball Room						

COMPANIES REGISTERED!

1. Total Petrochemicals, Belgium
2. Matrix Polymers, UK
3. N. A. Roto Machine & Molds, Ahmedabad
4. Egyptian European Company
5. Greenage Industries, Ahmedabad
6. Alok Masterbatches, Delhi
7. Reinhardt Roto Machines, Vadodara
8. Vectus Industries, Noida
9. Phychem Technologies, Nashik
10. Mplast India, Noida
11. Ideal Poly Tecnalogies, Coimbatore
12. Carris Pipes, Cochin
13. Evolve Polymers, Thrissur
14. Vinodrai Engineers, Jalna
15. Floteks, Turkey
16. UniqueRoyo, UK
17. ROTOPOL, Poland
18. Flexahopper, USA
19. Sintex BAPL, Kalol
20. BAPL Rototech, Pithampur
21. K K Nag, Pune
22. B D Industries, Mumbai
23. Nilkamal, Mumbai
24. Gazi Tanks, Bangladesh
25. Heera Rotopolymers, Jalgaon
26. Ingenia Polymers FZE, Dubai
27. Lysis Technologies, UK
28. Ocean Polymers, Thrissur
29. Persico SpA, Italy
30. Polylink Sdn. Bhd, USA
31. Prima Plastics, Mumbai
32. PSD Rotoworx, Australia
33. Roto Solutions, South Africa
34. Roots Multi clean, Coimbatore

35. Rotoline, Patna
36. Sigma Roto Lining, Ankleshwar
37. Balaji Roto, Kolkata
38. SS Polyfusion, Durgapur
39. Chem – Trend, Bengaluru
40. Swastik Roto, Solapur
41. Maharashtra Maha Polyplast, Mumbai
42. Shri Krishna Engg., Pune
43. GMI Zarhak Moulders, Goa

UMAKANT'S TECHNICAL CORNER

2019 StAR CONFERENCE – WHY YOU MUST ATTEND

Annual rotomolding conference of StAR is like Holy pilgrimage for me and many of rotomoulders in India. Since its inception in 2004, the conference has been growing more & more vibrant.

In its early days, the conference was covering mainly the basic rotomolding process and new rotomolding product possibilities other than water tanks. At that time water tank was almost 95% of the total Indian rotomoulding market..

At the very first event, Prof. Roy Crawford presented a full day seminar on basic rotomoulding. As freshers to such a study of the process we felt enlightened every time we learnt about new aspect of rotomoulding. We were fascinated by the wonderful future which was visualized of the process, and of the product possibilities.

The StAR conferences have played a big role in developing our passion for the process. They have helped us a lot to learn technical as well as commercial aspects of rotational moulding. In a pre existing scenario of little change having happened in the practical world of Indian rotomoulding these conferences kept us interested in trying and doing new things even if without much commercial success.

But after initial 5-6 years, Indian rotational moulding market started to shift from tanks to other products mainly automobile, road safety and other infrastructure products. The StAR annual conference actually provided lots of opportunities for networking and knowledge sharing. Few joint ventures materialised as an outcome of this. Lots of new polymer and additive suppliers started to take the Indian market seriously, thanks again to the StAR platform.

Now topics of presentations also changed from barely basics to advancements in rotomoulding technologies. The conference has now become launching platform for many new technologies that have come into India. This is very evident from the ever increasing response to the Trade Shows of the annual conferences.

At the last few conferences, larger number of new tank manufacturers from all parts of India have been attending the event, which is a good development. The conference has become a unique annual event catering to diverse segments of the industry in India as well as in South Asia.

Umakant Savadekar
Phychem Technologies
umakant@phychem.com

AUTOMOTIVE – LIGHT WEIGHTING OPPORTUNITIES & CHALLENGES FOR BS VI

In recent past, all of us heard about environmental challenges faced by various cities in India and law makers influences in faster implementation of Emission norms across country. Indian automotive emission norm follows the European trends except the fact that, we are skipping BS 5 (a Euro 5 equivalent stage) and leap frogging from BS IV to BS VI.

In Europe it took nine years to effectively migrate from Euro-4(2005) to Euro -6(2014) whereas in India BS 6 will need to be implemented in three years' time from BS 4 introduction, giving enormous challenge to petroleum producers, Automotive OEMs and component manufactures.

According to the new notification, BS 6 will come in force from April 2020.

Bharat Stage VI (BS VI) - An overview BS-6 is an advancement in emission norms which reduces and confines the pollutants emitted by the automobiles to a stringent limit. This is achieved with the support of cutting-edge technologies in engine & exhaust systems. The norms focus on reduction of Particulate Matter (PM) and Nitrogen Oxides (NOx) by combination of technologies like —Diesel Particulate Filters (DPF) & Selective Catalytic Reduction (SCR). In few cases SCR is replaced by exhaust gas re-circulation (EGR) system. The Quality of Fuel is also a vital, with lesser Sulphur content (10 ppm).

It is a challenging task to efficiently accommodate new components in vehicle due to space constraints.

The newly added components and aggregates will increase the overall weight by 50-60 kg which may reduce the fuel efficiency of the

vehicle.

Opportunities for Rotomolding Industry

Plastic – the light weight wonder material which can be moulded into any shape gives comfort for automotive designers in negotiating space constraints or typical vehicle packaging issues. Designers can develop complex shaped components which are nearly impossible to manufacture in steel. Plastics being corrosion resistance needs no costly special treatment unlike metal, aids in effective functioning of new systems.

Rotomolding component manufacturers can look at development of components like Interior & Exterior components, Auxiliary water tanks, Plastic fuel tanks, Ad Blue tanks and other safety parts. Polyethylene derivatives like MDPE, HDPE & Cross linked PE is widely used for making these components. Just to give a perspective, fuel tank in plastic can benefit 40% weight reduction in heavy truck. Rotomolding is a preferred process for large capacity tank and components.

A higher degree of process expertise and deep understanding in automotive development is inevitable and perhaps one of the major entry barriers in auto component business. One may also need to have association with other component manufacturers to critical filler necks with electro-magnetic adaptors, Reed level, Ultrasonic Quality Sensors, antitheft sensors etc.

Apart from the Rotomolding process acumen, an intellectual attitude and robust Poka-yoke processes controls are needed to produce parts with consistent quality and delivery performance.

Typical automotive vehicle life spans from 10 -15 years and hence vehicles platforms are tested under accelerated test conditions which span over 18-24 months prior to introduction of vehicle in market.

Author is associated with BAPL Rototech, leading manufacturer of plastic Fuel tanks and AdBlue tanks serving Indian and Global OEM's. A joint venture company of Sintex BAPL and Rototech Srl, Italy

Dominic Polayil
BAPL Rototech

dominic.polayil@baplrototech.com

WELCOME NEW MEMBER

COMPANY	CATEGORY	CONTACT PERSON
SMR Pliable Industries India Pvt. Ltd, Pune	Moulder	Akash Chopra

FORTHCOMING EVENTS

ROTOMOULDING EVENTS TO BE ORGANIZED IN NEAR FUTURE BY StAR AND OTHER ARMO AFFILIATES

DATE	VENUE	EVENTS
StAR Event		
Jan - 23 - 25, 2019	Kochi, Kerala, India	StAR 2019 Annual Conference & Trade Show
ARMO Affiliate Events		
March 25 - 27, 2019	Napa, California	ARM Executive Forum
May 21 - 24, 2019	Guangzhou, China	RPC-CPPIA Conference
June 6 - 7, 2019	Gdynia, Poland	V Konferencja Rotopol Conference 2019
June 23 - 25, 2019	Brisbane	Rotomould 2019
Sep 6 - 18, 2019		ARMA/ Roto Connect Rototour
Sep 16 - 18, 2019	Sun City, Johannesburg, South Africa	ARMO International Conference hosted by ARMSA
Oct 16 - 23, 2019	Germany	K - Show
Oct 27 - 30	Houston, USA	ARM Annual Conference

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Tarrif

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Contact for Info

S B Zaman

Cell No : + 91 9810305356, Email: sbzamanp@gmail.com

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