

# ROTOTALK

SPECIAL 2018 ANNUAL CONFERENCE ISSUE

## StAR 2018 – LIVING UP TO EXPECTATIONS !

### Editorial Comment

*There was an air of positivity as events of the 2018 StAR Annual Conference found their natural pace and flowed smoothly from one to the other. It told a story of achievement of many of the objectives of the conference... of satisfaction for the participants evidenced in the trail of attendee feedback extolling the conference and trade show for a variety of reasons.... Not in the least for the record attendance and the biggest Trade show ever. A membership roster of sixty plus early in the year was another key development that augurs well for more success in the course of the year to come....Glad tidings to sustain a unique new momentum at StAR.....*

### Dear Reader,

The 14th annual Conference of StAR in Delhi delivered some great atmosphere leading to a new level of success for a StAR conference..... thanks to the enthusiastic participation of 135 attendees, a businesslike trade show enclosure periodically and regularly buzzing into life. Seminars and presentations were in a class of their own capturing in letter and spirit the essence of the theme **GST – Global State of Technology**.

Most heartening was the presence at the conference of a new profile of moulder member companies, small in size, owner technically well qualified and strong faith and belief that getting to grips with the right technologies is a singular route to durable prosperity. The success of the conference really lay there, having started with an ambitious theme. A body of members with an appetite to try out new things will ensure new energy and enthusiasm to fuel StAR activities during the current year.

Rototalk will bring the interesting developments in the course of the year.

Mukesh Ambani  
StAR President

SB Zaman  
StAR Exec Director

“ Fortunately I am able to visit many seminars but none match the hospitality of StAR, India. The passion for Rotomoulding that is present at the StAR conference is infectious. Excellent presentation program with numerous networking opportunities makes this conference essential to attend. We want to be part of this dynamic growing region.”  
**Les Druyf, A. Schulman Europe**

### CHAIRMAN'S CORNER.....

#### StAR 2018 ANNUAL CONFERENCE..... What a Record Setting Event It Was!

A roaring success with record number of attendees at 135, the previous high being ~ 110 attendees; a 22% + jump! Some interesting stats:

- Attendees 135: Moulders 72 + Suppliers 59 and others 4
- Companies 82: Moulder companies 46 + Supplier companies 32 and others 4.
- Domestic companies 65 and International 17
- Trade show booths 17: Domestic 9 + International 8

The message and spirit of the conference is best captured by some key defining statements from the prominent speakers: In his keynote Martin Coles of Matrix stated "Indian rotomoulding industry should be growing twice as fast and twice as profitably". Geert Vaes of Total asked "Let us all start dreaming again". Ted Humphreys of PSD Rotoworx "Making the impossible possible - Expand your horizons". Martin Spencer of Uniqueroto reinforced: "as a moulder you do not have all the knowledge & skills, you need to rely on expertise from others, the team approach. Celal Beysel elucidated quality control "you don't want to control more than necessary, but also not less than necessary". Alberto Carrara of Persico talked about direct electrically heated moulds for faster, precise and difficult to mould materials & products. Shivinder Chawla of Reinhardt enlightened us about Lean Green Solar machine that they operate with an electrically heated oven fed from roof top solar panels. Gary Lategan continued his never ending emphasis on Powder Quality. Milan Aggarwal informed us about colorants & additives that must offer light fastness and weather fastness.

Dr. Scachin Waigaonkar of BITS – Goa presented on the standards & design of underground tanks along with FEA verification. His presentation was most well received, he made this dry & difficult subject so easy & interesting! Johan Potargent of AMS gave an impressive video presentation to explain ROBOMOULding – "The future is now"! Aldo Quaratino of Matrix explained the difference between Hexene [C6] and Butene [C4] grades making it comprehensible & effective.

Globally connected Paul Nugent made his first ever presentation at a StAR conference on "Global rotomoulding – current state and future direction" and was a major hit with the audience. Martin Spencer's second presentation on "affordable steps to process monitoring" encouraged many to start on this journey. Conference ended with StAR and ARMO reports and promotion of the upcoming tri-annual ARMO European conference in Hamburg, Germany in Sep 2018; stay tuned! StAR 2019 - see you all in Kochi, Kerala ..... GODS OWN COUNTRY

By Ravi Mehra  
Conference Chair  
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Celal Beysel

Aldo Quaratino

Gary Lategan

Martin Spencer

## OPENING DAY SEMINARS

## DAY 1 SEMINARS OFFERED IN - DEPTH KNOWLEDGE ON MULTIPLE TOPICS

Four half day seminars on the opening day on topics ranging from Materials to Automation... kept eighty plus attendees busy through the day. With veteran industry experts conducting each of these seminars enthusiasm among attendees was palpable. They could attend two seminars of their choice. The four half day seminars on offer were:

### Before lunch

- Best Practices in rotomoulding, finishing and quality control. By Celal Beysel, Floteks, Turkey
- The Journey toward Automation in rotomoulding by Martin Spencer, UniqueRoto, UK

### After lunch

- Advance Polymers & Technologies for the rotomoulding industry by Aldo Quaratino, Martix Polymers, UK
- Rotomoulding large parts and tanks – Semi and automatically by Gary Lategan, Rotosolutions, South Africa

## TRADE SHOW – EVENT WITHIN AN EVENT



## EXHIBITORS

- 01 Total Petrochemicals & Refining, Belgium
- 02 Omega Plasto Compounds, India
- 03 Matrix Polymers, UK
- 04 Prayag Polytech, India
- 05 MPLast, India
- 06 Maag Automatik, Germany
- 07 Shanghai Chungang Rotomoulding, China
- 08 Roto Solutions, South Africa
- 09 PSD Rotoworx, Australia
- 10 M L Industries, India
- 11 Indian Oil Corp, India
- 12 NARoto Machines & Moulds, India
- 13 Shanghai Young Mould Co, China
- 14 Foam Specialties, India
- 15 Persico S.p.A, Italy
- 16 Maharashtra Maha Polyplast, India
- 17 Reinhardt Roto Machines, India







# GST - GRAPHICAL STORY

The semi open Trade show enclosure with seventeen well constructed octanorm booths in refreshing ambient Delhi winter conditions created an attraction of its own for the exhibitors and the attendees. With all the lunches and other refreshments being served within the enclosure the Trade show stayed a very busy place during all three days of the conference, whenever the conference sessions were not on. The eight international and nine Indian exhibitors held the interest of attendees through the three days . The Trade show of the conference truly became an event within an event.

## GST – GLOBAL STATE OF TECHNOLOGY PROVED TO BE AN ALL PERVASIVE THEME

The all important second day of the conference had a pleasant surprise for all – the ballroom venue of the meeting filled up to its full capacity of 135 attendees, a new record for a StAR Conference.

The Keynote Address of the Conference by Martin Coles, Managing Director of Matrix Polymers UK: Roto In India – Unfulfilled Potential? set the tone to look at the rationalistic & futuristic path for growth and development of the industry. Different aspects of Rotomoulding were explored for technological impetus to have the desired " big push" to propel the industry. The very listing of topics & speakers was manifestation of the extra efforts that were made to sync presentations with the theme for maximum impact

### GSI – GLOBAL STATE OF INDUSTRY:

**Roto in India - Unfulfilled Potential?**

**Global Rotomolding: Current scenario - Future direction**

By: Paul Nugent, Roto Consultant, USA

### GST – GLOBAL STATE OF THE TECHNOLOGY

**ROBOMOULDING – From world class to fully Automated rotomoulding**

By: Johan Potargent, AMS – Automation & Manufacturing Services, Belgium

**Collaborate for success – a Team approach**

By: Martin Spencer, Unique Roto, UK



Martin Coles



Paul Nugent



Alberto Carrara



Shivinder Chawla



Angelique Brocatus



Dr S Waigaonkar



Ted Humphreys

**Affordable steps to process monitoring and control**

By: Martin Spencer, UniqueRoto, UK

**Lab capabilities required to assure quality of rotomoulded products**

By: Celal Beysel, Floteks, Turkey

**DTH - The Technology driving the future of Rotational Moulding**

By: Alberto Carrara, Persico, Italy

**Lean Green Solar Machine**

By: Shivinder Chawla, Reinhardt, India

**Mould Release – a barrier that can save you money**

By: Gary Lategan, Roto Solutions, South Africa

**Rotomoulding is all about Good POWDER**

By: Gary Lategan, Roto Solutions, South Africa

**Pulverizing PE - Monitoring, controlling and improving the powder quality**

By: Alexander Datzinger, Maag Automatik GmbH, Germany

**Underground Tank Standards**

By: Sachin Waigaonkar, BITS-GOA, India

### GST – GLOBAL STATE OF THE MATERIALS:

**Right material for the right application**

By: Saugata Chaudhuri, Total Petrochemicals, India

**Long term material properties - ensure performance over the life of a part**

By: Geert Vaes, Total Petrochemicals and Refining, Belgium

**SOTA Polypropylene - Why Where & How to use it**

By: Ted Humphreys, PSD Rotoworx, Australia

**Understanding high quality rotomoulding – Hexene (C6) vs. Butene (C4)**

By: Aldo Quaratino, Matrix Polymers, UK

**UV and light stabilization of materials for outdoor applications**

By: Angélique Brocatus, A. Schulman, Netherlands

**Discoloration Resistant LLDPE for Rotational Moulding**

By: Soontorn Chooprayoon, PTT Global Chemicals, Thailand





# RY OF TURN OF EVENTS

Understanding important role of Masterbatches in rotomolding

By: Milan Aggarwal, Prayag Polytech, India

High Density LLDPE for Rotational Moulding in Infrastructure Applications

By: Dhananjay Sahoo, Polymers, Indian Oil Company, India

Environment friendly Blowing Agent for Polyurethane Foam Application

By: Anil Bansal, Foam Supplies India, India

## SUPPLIERS NETWORKING DINNER – SUMPTUOUS AND MELLIFLUOUS

Food, wine and music combined beautifully in open pool side ambience for the Suppliers Networking Dinner Reception to be an enjoyable evening on the inaugural day of the conference. A Fine presentation by a talented and pretty duo of saxophonist and violinist who played in tandem and individually provided the ideal backdrop for networking and indulging the finer sensibilities – near perfect state of mind to go into the main schedule of conference presentations the following day.







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### GOLD SPONSORS



Sponsorship at the conference have symbolized the partnership between some of the leading supplier companies and StAR in promoting the rotomoulding industry of the region and supporting the only international rotomoulding conference to be held in India every year

Sponsors earned special recognition and they were honoured and presented appreciation awards during the Gala Dinner on 20th Jan to warm applause.

## IMPRESSIONS ..... About The Conference

### Aldo Quaratino, Matrix Polymers Ltd., UK

I have been attending the annual StAR conference since 2013 and I have always found the conference very informative. So this year! The conference was well organised and incredibly well attended with people coming from many, many countries. For me it was a good platform to meet many experts of the rotomoulding industry.

### Ted Humphreys, psdrotoworx, Australia

"India has the economic growth and need for social development to ensure a great future for the local rotomoulding industry. ....If the moulders put into practise just a part of the excellent technology exchange presented at the StAR 2018 conference, it's growth and future are assured."

### Geert VAES, Total petrochemical

I have been attending all StAR conferences since 2013 and Total for an even longer period. Like previous editions, this year's event offered again great opportunities for it is remarkable that with every event the quality of the venue and of the level of the exchanges increase. I always travel back to Europe with new ideas for innovative developments. Total will be back next year!

### Ravi Kadivar, GreenAge Industries, India

"StAR 2018 conference was one of its kind. The showcase of latest rotomoulding technology and new materials has broadened our vision on what can be achieved with Rotomoulding and has prescribed a future road-map for us..."

### Celal Beysel, Floteks, Turkey

It is encouraging to see that every year, there are more attendants to the StAR meeting ; a clear sign that the Indian Rotomolders are appreciating the efforts of the StAR Board and professionals, to support, educate and enhance the Rotomolding Industry in India

### Venkit Mahadevan, Matrix Polymers Ltd., India

As the leading specialty roto-materials suppliers in India, I find the StAR conferences a great networking opportunity! This one was no less and helped us consolidate a bunch of new business opportunities too!

### Satish Gokhale, Design Directions, India

It's always great to attend the StAR conferences. It's unique as all the stake holders who are in some ways connected to rotational moulding industry. This year's conference was as power packed as always. There was a lot of learning and great networking.



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Sarika & Ashish Baheti outgoing President







## "CARNIVAL" THEME ENSURED A LIVELY GALA DINNER EVENING

Fun, Food and Entertainment become a heady mix along with recognising those who contributed significantly to the success of the conference, ensured non stop enjoyment of a lively evening. The entire Chowbella restaurant along with extended area was set aside for the gala dinner evening, beginning with a carnival welcome at an aptly decorated entrance. A photo booth amidst more Carnival decor and finally a stage and bar in the extended area completed a setting that inspired a high spirited evening among all present . The variety of entertainment presented on stage was a joy to behold with only a short interregnum for presentation of awards. Honouring the sponsors of the conference, the outgoing StAR President, and the Conference Chair which drew special attention and applause



### StAR HEARTILY WELCOMES ITS NEW MEMBERS

• <b>Param Polymers, kolkata</b>	<b>Moulder</b>	<b>Harsha V Agarwala</b>
• <b>Uniko Plast, Kashipur</b>	<b>Moulder</b>	<b>Anil Lada</b>
• <b>Royal Play Equipments, Mumbai</b>	<b>Moulder</b>	<b>Manoj Matiawala</b>
• <b>Intermold Furniture, Mumbai</b>	<b>Moulder</b>	<b>Amit Khemka</b>
• <b>Hilltake Industries, Nepal</b>	<b>Moulder</b>	<b>Pulkit Jain</b>
• <b>Prima Plastics, Mumbai</b>	<b>Moulder</b>	<b>Dilip Parekh</b>
* <b>New Members</b>	* <b>Rejoining Members</b>	

## POST CONFERENCE – LEARNING TO DO EVERYTHING RIGHT

Testing is at the core of doing everything right in day to day rotomoulding. Of these a vitally important test is the ARM Low Temperature Impact Test (-40° C) ARM Low temperature Impact Test (ALTIT) is one of the oldest Rotomoulding Industry specific impact test standard and has helped material suppliers in designing their material based on results obtained from the same. Although being one of the oldest and critical test standard, still no material suppliers in India provide standard values of ALTIT on their data sheets.

Measuring toughness of Rotomoulding products are very important, reason being rotomoulding is a stress free process and with very few process parameters that can be accurately controlled, it gets very critical to ensure the moulding is carried out in most efficient way to ensure physical properties of product achieved is at its optimum level.

While conducting ALTIT, a + very harsh pre conditioning (-40° C) test parameter is kept to ensure that even a minor variation in process temperature ( $\pm 5^\circ$  C) and cycle time ( $\pm 5$  mins) will give you different results.





ALTIT results used to be the ideal source of knowing the curing achieved on your roto part. Parts that are properly cured have shown more of ductile failures and parts which are over & under cured have more of brittle failures.

We installed our ALTIT equipment back in 2014 and have regularly tested both base resins and our compounded powders and have helped moulders in selecting the right material for their product. Some of our critical observations are,

- 1) While going for grades with high stiffness, we were compromising on toughness/impact properties. Alternatively, achieving high stiffness parts by processing it with PE having Hexene (C6) as comonomer has shown improved ALTIT results when processed similarly as regular Butene (C4).
- 2) The indication on what procedure (dart weight) out of the 4 stated is being used shows the toughness of the grade. The weight of the darts used are

- Procedure A requires a 10 lb. (4.536 kg) dart.
- Procedure B requires a 15 lb. (6.804 kg) dart.
- Procedure C requires a 20 lb. (9.072 kg) dart.
- Procedure D requires a 30 lb. (13.61 kg) dart.

If no impact failures are achieved by using a particular dart, you have to move to a higher weight dart, reason being the increase in dart weight would lead to increase in impact energy, where Procedure D allows for even higher impacts by virtue of the greater dart weight and more severe dart tip/tup geometry.

In our initial days, we have tested grades from domestic PE suppliers which were not even able to survive impacts from as low as 1 feet from procedure A. While today we offer grades that can survive even Procedure D.

- 3) It is recommended to test specimens instantly when taken out of freezer chamber because the average rate of drop in temperature when exposed to room temperature is 10 -15° C in 30 secs which will affect results obtained. Measuring temperature of specimen with hand held Infrared Temperature Gun while removing specimen helps in understanding the variations.

Ravi Kadivar  
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### FORTHCOMING EVENTS

EVENT	DATE	VENUE
2018 ROTATION	Mar 13 – 15, 2018	Johannesburg, South Africa
ARM EXECUTIVE MEETING	Mar 25 – 27, 2018	Hyatt Grand Cypress Orlando, FL USA
RPC-CPPIA ANNUAL CONFERENCE & EXHIBITION	April 18 – 20, 2018	Wyndham Grand Haicang, Xiamen Fujian, China
NPE 2018	May 7 – 11, 2018	Orange County Convention Center, Orlando, FL USA
ROTOPOL	May 10 – 11, 2018	Gdansk, Poland

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