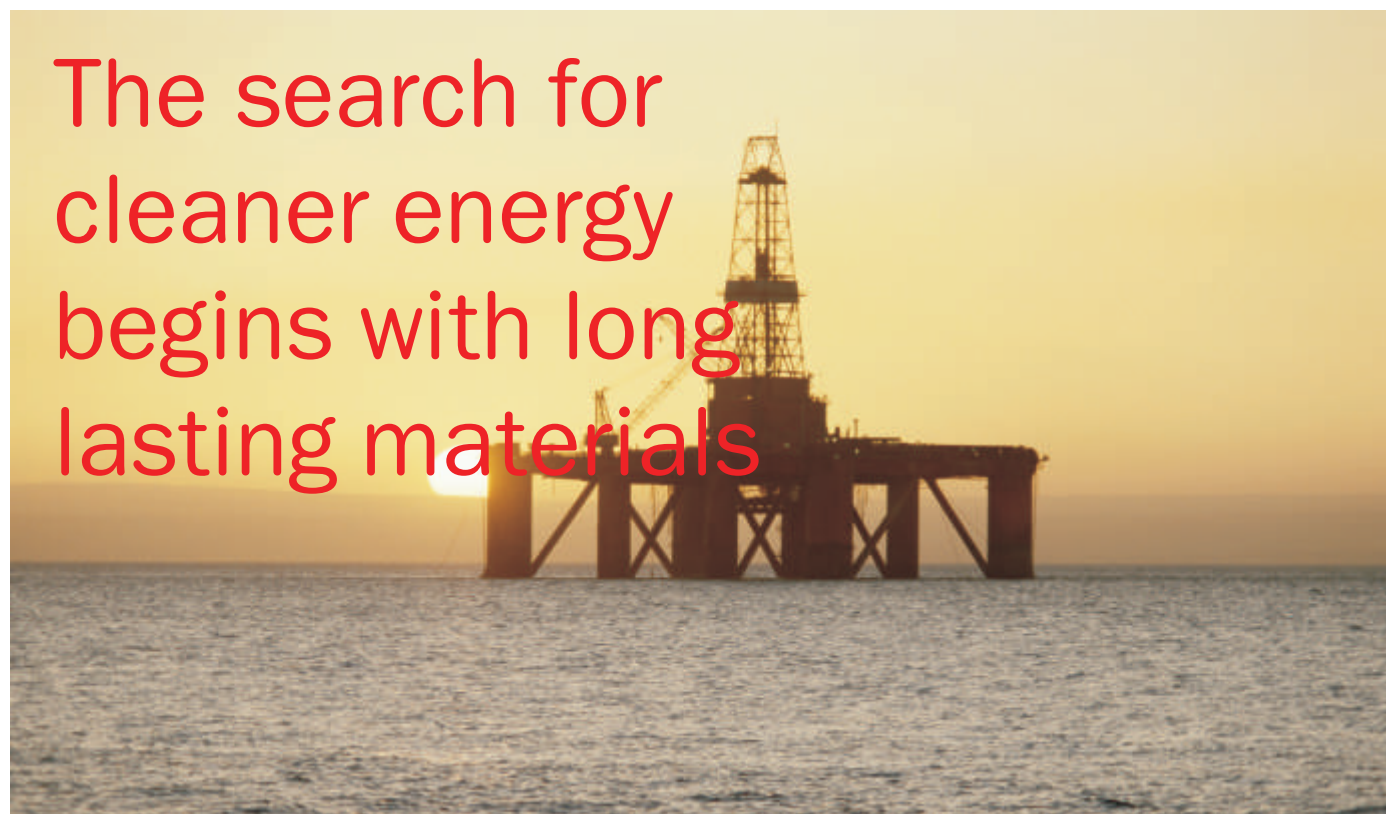


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# PPMAI speak

Process Plant and Machinery Association of India

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Opportunity Management | 06

53rd AGM Report | 09

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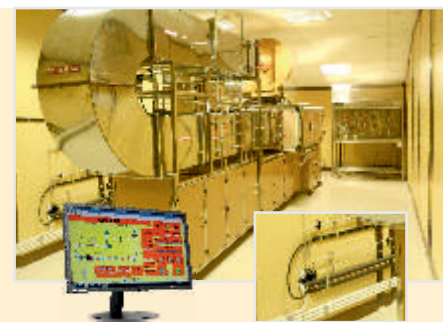
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Dear Friends,

It is indeed a great honor to be the Chairman of an association with a legacy of 54 years. I am deeply moved by your affection and confidence in me and I accept the responsibility smilingly due to your overwhelming support. It is indeed a great responsibility but I will work together with you to achieve our high expectations in next 24 months.

Having been closely involved with the association for nearly a decade, I wish to focus primarily on the following areas:

- Speaking with one strong, credible voice to the government to take up industry issues. Policy advocacy.
- Leading with focus on issues and opportunities. Exhibitions, Workshops and Buyer Seller meets.
- Sense of urgency in meeting needs of members. Membership Growth across the Nation.
- Training opportunities to encourage skill enhancement, knowledge upgradation and soft skill development in the areas of leadership, team spirit and ethical behavior. Revenue generation
- Working together to make PPMI financially stronger and meaningful to emerge as a strong Brand which is recognized and listened to with awe and respect.

Last three quarters have been particularly difficult for the Indian economy and industry. Our sector growth is on decline. Being the backbone of Make in India, we need to engage with the government to create an enabling environment to encourage more investments in the manufacturing sector. Let us not forget that we have the national ambition to improve the manufacturing share of GDP from 15% to 25% by 2025.

Our consumer market is growing to become the fifth largest consumer market by 2025. There is huge demand for automobiles, consumer durables, FMCG products, pharmaceuticals, textiles, housing, telecom equipment... The list will go on expanding as the population grows and gets more prosperous with higher levels of aspirations. We as process and plant manufacturing industry have a greater role to further innovate and make extraordinary use of available resources and commodities.

I would like to thank Shri Anil Rairikar and Past Presidents for their contributions to bring PPMI to its current status. I look forward to aggressive support from all the Chair and Co-Chair of several committees formed in PPMI Board meeting. With your collective support and commitment, we will surely achieve greater heights.

Wishing you and your colleagues at work place and families at home a very Happy New Year 2018.

**Yatinder Singh Suri**

Chairman

edited printed & published by:  
V.P. Ramachandran, Secretary General



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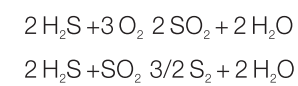
**Claus Process**

The Claus process is the most significant gas desulfurizing process, recovering elemental sulfur from gaseous hydrogen sulfide. First patented in 1883 by the chemist Carl Friedrich Claus, the Claus process has become the industry standard. C. F. Claus was born in Kassel in the German State of Hessen in 1827, and studied chemistry in Marburg before he emigrated to England in 1852. Claus died in London in the year 1900.

The multi-step Claus process recovers sulfur from the gaseous hydrogen sulfide found in raw natural gas and from the by-product gases containing hydrogen sulfide derived from refining crude oil and other industrial processes. The by-product gases mainly originate from physical and chemical gas treatment units (Selexol, Rectisol, Purisol and amine scrubbers) in refineries, natural gas processing plants and gasification or synthesis gas plants. These by-product gases may also contain hydrogen cyanide, hydrocarbons, sulfur dioxide or ammonia.

Gases with an H<sub>2</sub>S content of over 25% are suitable for the recovery of sulfur in straight-through Claus plants while alternate configurations such as a split-flow set up or feed and air preheating can be used to process leaner feeds.

Hydrogen sulfide produced, for example, in the hydrodesulfurization of refinery naphthas and other petroleum oils, is converted to sulfur in Claus plants. The reaction consists in two steps:



The vast majority of the 64,000,000 metric tons of sulfur produced worldwide in 2005 was byproduct sulfur from refineries and other hydrocarbon processing plants. Sulfur is used for manufacturing sulfuric acid, medicine, cosmetics, fertilizers and rubber products. Elemental sulfur is used as fertilizer and pesticide.



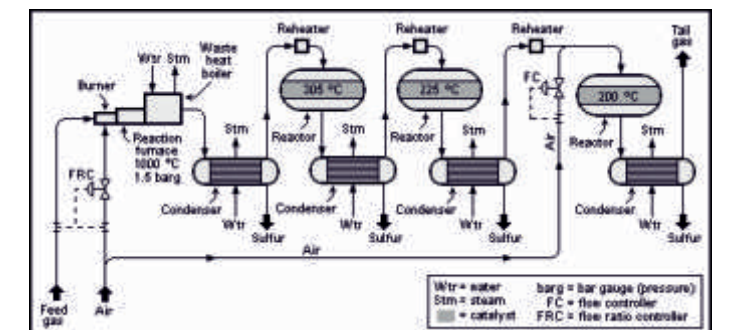
Piles of sulfur produced in Alberta by the Claus process awaiting shipment at docks in Vancouver, Canada.

**History**

The process was invented by Carl Friedrich Claus, a chemist working in England. A British patent was issued to him in 1883. The process was later significantly modified by IG Farben.

**Process description**

A schematic process flow diagram of a basic 2+1-reactor (converter) SuperClaus unit is shown below:



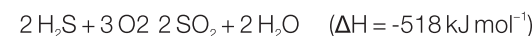
Schematic flow diagram of a straight-through, 3 reactor (converter), Claus sulfur recovery unit.

The Claus technology can be divided into two process steps, thermal and catalytic.

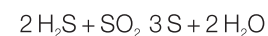
### Thermal step

In the thermal step, hydrogen sulfide-laden gas reacts in a substoichiometric combustion at temperatures above 850 °C such that elemental sulfur precipitates in the downstream process gas cooler.

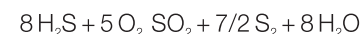
The H<sub>2</sub>S content and the concentration of other combustible components (hydrocarbons or ammonia) determine the location where the feed gas is burned. Claus gases (acid gas) with no further combustible contents apart from H<sub>2</sub>S are burned in lances surrounding a central muffle by the following chemical reaction:



This is a strongly exothermic free-flame total oxidation of hydrogen sulfide generating sulfur dioxide that reacts away in subsequent reactions. The most important one is the Claus reaction:



The overall equation is:



This equation shows that in the thermal step alone two-thirds of the hydrogen sulfide can be converted to sulfur.

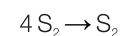
Gases containing ammonia, such as the gas from the refinery's sour water stripper (SWS), or hydrocarbons are converted in the burner muffle. Sufficient air is injected into the muffle for the complete combustion of all hydrocarbons and ammonia. The air to the acid gas ratio is controlled such that in total 1/3 of all hydrogen sulfide (H<sub>2</sub>S) is converted to SO<sub>2</sub>. This ensures a stoichiometric reaction for the Claus reaction in the second catalytic step (see next section below).

The separation of the combustion processes ensures an accurate dosage of the required air volume needed as a function of the feed gas composition. To reduce the process gas volume or obtain higher combustion temperatures, the air requirement can also be covered by injecting pure oxygen. Several technologies utilizing high-level and low-level oxygen enrichment are available in industry, which requires the use of a special burner in the reaction furnace for this process option.

Usually, 60 to 70% of the total amounts of elemental sulfur produced in the process are obtained in the thermal process step.

The main portion of the hot gas from the combustion chamber flows through the tube of the process gas cooler and is cooled down such that the sulfur formed in the reaction step condenses. The heat given off by the process gas and the condensation heat evolved are utilized to produce medium or low-pressure steam. The condensed sulfur is removed at the liquid outlet section of the process gas cooler.

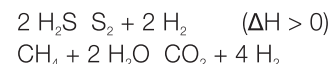
The sulfur forms in the thermal phase as highly reactive S<sub>2</sub> diradicals which combine exclusively to the S<sub>8</sub> allotrope:



### Side reactions

Other chemical processes taking place in the thermal step of the Claus reaction are:

The formation of hydrogen gas:



The formation of carbonyl sulfide:  
 $\text{H}_2\text{S} + \text{CO}_2 \rightarrow \text{S}=\text{C}=\text{O} + \text{H}_2\text{O}$

The formation of carbon disulfide:  
 $\text{CH}_4 + 2 \text{S}_2 \rightarrow \text{S}=\text{C}=\text{S} + 2 \text{H}_2\text{S}$

### Catalytic step

The Claus reaction continues in the catalytic step with activated aluminium (III) or titanium (IV) oxide, and serves to boost the sulfur yield. More hydrogen sulfide (H<sub>2</sub>S) reacts with the SO<sub>2</sub> formed during combustion in the reaction furnace in the Claus reaction, and results in gaseous, elemental sulfur.



One suggested mechanism is that S(6) and S(8) desorb from the catalyst's active sites with simultaneous formation of stable cyclic elemental sulfur.

The catalytic recovery of sulfur consists of three substeps: heating, catalytic reaction and cooling plus condensation. These three steps are normally repeated a maximum of three times. Where an incineration or tail-gas treatment unit (TGTU) is added downstream of the Claus plant, only two catalytic stages are usually installed.

The first process step in the catalytic stage is the gas heating process. It is necessary to prevent sulfur condensation in the catalyst bed, which can lead to catalyst fouling. The required bed operating temperature in the individual catalytic stages is achieved by heating the process gas in a reheater until the desired operating bed temperature is reached.

Several methods of reheating are used in industry:

- Hot-gas bypass: which involves mixing the two process gas streams from the process gas cooler (cold gas) and the bypass (hot gas) from the first pass of the waste-heat boiler.
- Indirect steam reheaters: the gas can also be heated with high-pressure steam in a heat exchanger.
- Gas/gas exchangers: whereby the cooled gas from the process gas cooler is indirectly heated from the hot gas coming out of an upstream catalytic reactor in a gas-to-gas exchanger.
- Direct-fired heaters: fired reheaters utilizing acid gas or fuel gas, which is burned substoichiometrically to avoid oxygen breakthrough which can damage Claus catalyst.

The typically recommended operating temperature of the first catalyst stage is 315 °C to 330 °C (bottom bed temperature). The high temperature in the first stage also helps to hydrolyze COS and CS<sub>2</sub>, which is formed in the furnace and would not otherwise be converted in the modified Claus process.

The catalytic conversion is maximized at lower temperatures, but care must be taken to ensure that each bed is operated above the dew point of sulfur. The operating temperatures of the subsequent catalytic stages are typically 240 °C for the second stage and 200 °C for the third stage (bottom bed temperatures).

In the sulfur condenser, the process gas coming from the catalytic reactor is cooled to between 150 and 130 °C. The condensation heat is used to generate steam at the shell side of the condenser.

Before storage, liquid sulfur streams from the process gas cooler, the sulfur condensers and from the final sulfur separator are routed to the degassing unit, where the gases (primarily H<sub>2</sub>S) dissolved in the sulfur are removed.

The tail gas from the Claus process still containing combustible components and sulfur compounds (H<sub>2</sub>S, H<sub>2</sub> and CO) is either burned in an incineration unit or further desulfurized in a downstream tail gas treatment unit.

### Sub dew point Claus process

The conventional Claus process described above is limited in its conversion due to the reaction equilibrium being reached. Like all exothermic reactions, greater conversion can be achieved at lower temperatures, however as mentioned the Claus reactor must be operated above the sulfur dew point (120–150 °C) to avoid liquid sulfur physically deactivating the catalyst. To overcome this problem, the sub dew point Claus reactors are oriented in parallel, with one operating and one spare. When one

reactor has become saturated with adsorbed sulfur, the process flow is diverted to the standby reactor. The reactor is then regenerated by sending process gas that has been heated to 300–350 °C to vaporize the sulfur. This stream is sent to a condenser to recover the sulfur.

### Process performance

Over 2.6 tons of steam will be generated for each ton of sulfur yield.

The physical properties of elemental sulfur obtained in the Claus process can differ from that obtained by other processes. Sulfur is usually transported as a liquid (melting point 115 °C). In ordinary sulfur viscosity can increase rapidly at temperatures in excess of 160 °C due to the formation of polymeric sulfur chains but not so in Claus-sulfur. Another anomaly is found in the solubility of residual H<sub>2</sub>S in liquid sulfur as a function of temperature. Ordinarily the solubility of a gas decreases with increasing temperature but now it is the opposite. This means that toxic and explosive H<sub>2</sub>S gas can build up in the headspace of any cooling liquid sulfur reservoir. The explanation for this anomaly is the endothermic reaction of sulfur with H<sub>2</sub>S to polysulfane.



welcome new member

Welcome  
NEW MEMBER

PPMAI welcome the following member/s who newly joined the Association and look forward to their prolonged association and active participation in all our programmes.

Sr. No.	Name of the company	Name of the company	Activity
1.	<b>AVEVA Information Technology India Pvt. Ltd.</b> 2nd Floor, Unit 202, A-Wing, Supreme Business Park, Supreme City, Behind Lake Castle, Hiranandani Gardens, Powai, Mumbai – 400076 Tel: 022 – 67368400 Fax: 022 – 67368450 Email : sales.india@aveva.com Website : www.aveva.com	<b>Mr. Shekhar Kulkarni</b> Head of Sales Mob: 8452006241	Manufacturer/Service Provider :  Engineering Software and Marine Software.  Documents validation services, Data Capture services etc.



# Opportunity Management

Opportunity Management (OM) has been defined as "a process to identify business and community development opportunities that could be implemented to sustain or improve the local economy".

Opportunity management is a collaborative approach for economic and business development. The process focuses on tangible outcomes. Opportunity management may result in interesting and motivating projects that help improve teamwork. Its three components are

1. Generating ideas,
2. Recognizing opportunities, and
3. Driving opportunities.

## Risk

Risk management can be described as the process of proactively working with stakeholders to minimise the risks and maximise the opportunity associated with project decisions. Risks are about the possibility of an adverse consequence. Good risk management does not have to be expensive or time consuming but relies on adaptability in response to change. Risk management ensures that an organization identifies and understands the risks to which it is exposed. Organisations continuously face environments in which uncertainty is constantly challenging the existing ways of doing business and the way that risk needs to be managed. However, the upside to risk, that is often overlooked, is that the feared uncertain event could have a desired outcome. TAP University's blog notes that this is a positive risk or opportunity and needs to be managed to ensure a good result. Having a clear understanding of all risks allows an organization to measure and prioritize them and take the appropriate actions to reduce losses.

Where risk management seeks to understand what might go badly in a project, opportunity management looks for what might go better.

Opportunity management is the process that converts the chance to decisiveness and is increasingly becoming embedded in the culture of organisations as they mature and broaden their

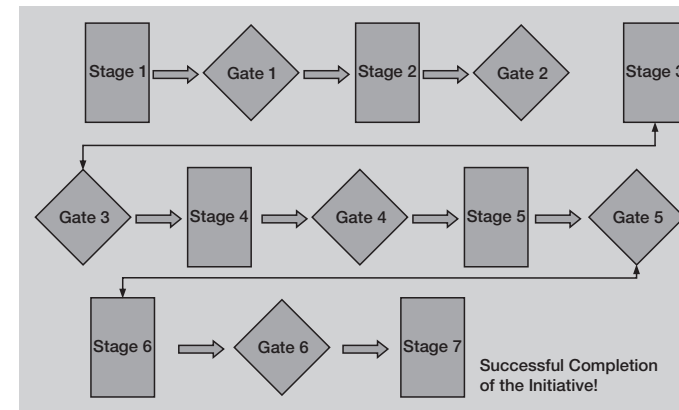
understanding of the value that managing uncertainty can bring. For positive risk or opportunity management to be effective in creating or protecting value it must be an integral part of the management processes, be embedded in the culture and practices of the organisation, be tailored to the business process of the organisation, and comply with the risk management principles outlined in ISO 31000. An opportunity management process has required elements that need to be evaluated before advancing and allocating scarce resources to any project. All organisations have limited resources and it is important that they are used sensibly.

The first step that an organisation should take in order to improve decision making and reduce risk is identifying potential opportunities. It is advised that a business takes the necessary time and considers numerous ways of identifying opportunities for initiatives. Organisations could implement processes like "organizational catch ball" which would help them to develop plans and strategies for economic growth in the community. As Conti notes, "the interactive catch ball process from management level to the next is necessary for correct planning and alignment of goals". They could also implement brainstorming activities, hold stakeholder meetings, hold focus group interviews and hold jurisdictional reviews. This would help the organisation generate ideas to include in the initiative funnel. The firm should proceed to evaluate and prioritize initiatives to enable more effective courses of action to be taken in the future. This would involve ranking criteria in order of importance to ensure the correct alignment of targets for the projects. It is vital that the firm includes many opportunities in the decision making funnel to be effective. This will allow for a more comprehensive scope of ideas to be included in the decision making funnel.

## Funnel

An opportunity management funnel is a framework that allows management to evaluate and select opportunities. An opportunity management funnel is a process whereby many opportunities are put in up front and fewer investment decisions coming out at the end of the funnel. The goal of the opportunity management funnel is to eliminate weak ideas before they consume excessive resources while allowing strong ideas to filter through the process.

Sample Stage-gate System



Sample stage-gate decision making system. The number of stages and gates will vary depending on the initiative

The challenge for the business and project management team is to make choices and decisions that move toward the desired objectives – a task that is made difficult by change.

The funnel approach raises questions pertaining to:

- Who will work to move the idea forward?
- What assessment criteria should be set?
- Who will decide whether the idea should be pursued or dropped?
- How will the decision be made?

The funnel filters the broadest range of opportunities and ensures that all priority sectors are represented. The process must be unbiased and lead to a choice of resources that maximizes return. When selecting which opportunities to filter through the process, users should be aware that initially, there are no bad ideas or limits. The unviable alternatives will be filtered out using the phase-gate model. Rigorous screening must be applied to focus on the initiative. The business can examine the merit of each initiative before deciding to dedicate resources to the project. The business will have the option to implement three decisions at a gate such as advance, rework and kill the project. Perhaps the greatest challenge that users of stage and gate processes face is making the gates work well: as go the gate, so goes the process. This will help prevent the firm from wasting valuable resources and time on ineffective initiatives.

## Stage-gate/phase-gate decision making

The stage-gate process was created because the traditional organisational structure is primarily for top-down, centralized control and communications, all of which are not practical for organizations that use project management and horizontal workflow. The stage-gate process evolved into life-cycle phases. Stages are phases of the decision-making process where development work is completed. Phase-gate systems divide the innovation process into a predetermined set of stages composed of a group of "prescribed, related, and often parallel activities." Most Phase-gate systems involve four to seven stages. Since each proceeding stage is more expensive than the previous, it is imperative that a high degree of research-backed discrimination is involved in passing stages. The body of research collected for proposed initiatives should be frequently consulted to adequately support the decision-making processes.

A firm could use certain assessment criteria to help identify opportunities and will ensure resources are not wasted on low value opportunities. There are three types of criteria that a firm could use. These include criteria of inclusion, criteria of exclusion and portfolio level criteria. Using assessment criteria would provide a transparent process that will highlight what initiatives to abandon and which initiatives to pursue. Exclusion criteria could be used by the firm, as it saves time and money. It is a simple method of reducing the number of initiatives to evaluate. "A firm must maintain records to support why a portfolio was assigned to a specific composite, or was excluded from all composites." The firm could also look at inclusive criteria to help to prioritize initiatives. This could include ensuring that it has key stakeholder support, or making the initiative economically feasible. Portfolio level criteria may also be used to ensure the right mixes of initiatives are used. Ensuring that the initiatives stimulate job creation and have the support of the community are some of the criteria that the firm could include while planning an initiative.

It is imperative that evaluation of each gate should be objective, open-minded, clear on the businesses' strategic goals and done by experienced people. People that are evaluating the project at each gate must have the courage to terminate the project if necessary. This is important as it will prevent any bias from occurring throughout the decision making phase. However, the system that the firm puts in place should not be so rigorous that it omits viable projects or too laid-back that resources are spread finely across multiple projects. "The lack of tough Go/Kill decision points means too many product failures, resources wasted on the wrong projects, and a lack of focus." A level of uncertainty can be positive for evaluating criteria by the firm as too many kills of ideas may discourage stakeholders from forming ideas.

## Philosophical underpinnings

A risk and opportunity management policy is a statement of intent which should communicate an organisations attitude, rational and philosophy towards risk and opportunity management. While opportunity management is considered to be a recent phenomenon resulting from the blending different project management methodologies, business development is well-rooted in philosophy.

Aristotle's Nicomachean Ethics clearly differentiates between the outcomes (ends) we aim to achieve and the outputs (means) we use to achieve these outcomes. Careful deliberation is required to select the outputs that are most likely to contribute to the outcomes we desire. Aristotle understands that problems could arise that would necessitate dropping one output in favor of another. Aristotle's theory links the logic-model to the Phase-gate process thereby introducing deliberation and kill points. Aristotle states:

"Rather, we lay down the end, and then examine the ways to and means to achieve it. If it appears that any of several [possible] means will reach it, we examine which of them will reach it most easily and most finely; and if only one [possible] means reaches it, we examine how that means will reach it and how the means itself is reached, until we come to the first cause, the last thing to be discovered. For a deliberator would seem to inquire and analyze in the way described, as though analyzing a diagram...If we encounter an impossible step – for instance, we need money but cannot raise it – we desist; but if it appears possible we undertake it. What is possible is what we achieve through our agency

[including what our friend could achieve for us]... Deliberation is about the actions he can do, and actions are for the sake of other things; hence we deliberate about things that promote an end, not about the end."

Kant's Critique of Judgment is probably the most important and influential work in Western aesthetic theory. Philosopher Immanuel Kant's aesthetic theory also offers insight into opportunity management as it makes the connection between the imaginative (open end of the funnel) and understanding (application of deliberative thought and criteria). Kant states:

"For, in lawless freedom, imagination, with all its wealth, produces nothing but nonsense; the power of judgement, on the other hand, is the faculty that makes it consonant with understanding. Taste, like judgement in general, is the discipline (or corrective) of genius. ... It introduces a clearness and order into the plenitude of thought, and in so doing, gives stability to the ideas, and qualifies them at once for permanent and universal approval."

There are endless things that can be considered, but only a small portion of these can practically be achieved. If opportunity management does not adequately address both imagination and understanding, the best opportunities will not be pursued. Some individuals and organisations have become so used to thinking of risk management solely in terms of the negative outcomes of uncertainty that they recoil from using the same process to address opportunities. Opportunity management requires originality and rule: Kant notes:

"...genius (1) is a talent for producing that for which no definite rule can be given, and not an aptitude in a way of cleverness for what can be learned according to some rule; and that consequently originality must be its primary property. (2) Since there may be original nonsense, its products must at the same time be models, i.e., be exemplary; and consequently, though not themselves derived from imitation, they must serve that purpose for others, i.e., as a standard or rule of estimating. (3) It cannot indicate scientifically how it brings about its product, but rather gives the rule as nature. Hence, where an author owes a product to his genius, he does not himself know how the ideas for it have entered into his head, nor has he the power to invent like at pleasure, or methodologically, and communicate the same to others in such precepts as would put them in a position to produce similar products... (4) Nature prescribes the rule through genius not to science but to art, and this also only in so far as it is to be fine art."

American philosopher Charles S. Peirce notes that new knowledge originates outside of the traditional logic of induction and deduction. He posits a process of abduction through which a mind freed from constraints to arrive at a creative inference. Abduction is a process of conjecture that is capable of creating new knowledge through the positing of a novel hypothesis. It makes no claim to 'what is' but rather to 'what might be.' The content of the idea cannot be tested in advance but where the process of reaching a decision is biased the idea is likely to be flawed. Peirce notes, "But observed facts relate exclusively to the particular circumstances that happen to exist when they were observed. They do not relate to any future occasions upon which we may be in doubt how we ought to act. They, therefore, do not, in themselves contain practical knowledge." Opportunity management entails ongoing assessment of the decision-making process increasing the likelihood of success.

Roger Martin asserts that Peirce's notion of abduction is the basis of what he terms "Design Thinking" which is at the core of "the most powerful formula for competitive advantage in the twenty-first century." Design thinking is about the creation of, as well as the adaptive use of a body-of behaviors and values. Design thinking embeds integrative thinking throughout the entire organization. In his book "The Opposable Mind", Martin states:

"At its core, integrative thinking requires the integration of mastery and originality. Without mastery there won't be a useful salience, causality, or architecture. Without originality, there will be no creative resolution. Without creative resolution, there will be no enhancement of mastery, and when mastery stagnates, so does originality. Mastery is an enabling condition for originality, which in turn, is a generative condition for mastery. The modes are interdependent."

### Project management

Project management is the planning, organizing and controlling of a firm's resources to achieve reasonably short-term goals that have been established to complete specific targets and objectives. It is usually management driven and focuses on setting targets, problem solving and obtaining results. The purpose of project management is to act as a change agent, delivering a change to the status quo of a project, and achieving this in a controlled and managed way. In the initiation stage of project management, opportunity management may aid in the determination of the nature and scope of the project. Much like the initiation stage of project management, opportunity management aids in determining the nature and scope of projects. Since the initiation stage is crucial to the overall performance of the project management cycle, opportunity management may be used by project managers to determine which projects are worth pursuing. Project management is an attempt to manage uncertainty, since it is seen as a structured approach to produce managed change in a changing environment.

Most notably, opportunity management may aid in defining the business needs/requirements of the organization through the filtration of various alternatives and budgeting requirements. In the process of planning, projects should be properly defined and divided into logical, progressive steps. The screening and assessment criteria offered by opportunity management allow project managers to establish the business case for the project. Opportunity management determines which projects are worth pursuing before dedicating excessive resources. As the project progresses from the initiation stage to the planning and design phase, the screening and assessment criteria will act as a continuous gauge to determine the viability of the project. This ongoing determination of the viability of the project also aids in portfolio management since project managers employ opportunity management to determine which projects are worth pursuing and the prioritization of projects. Furthermore, project managers should be able to identify and engage the appropriate stakeholders throughout the entire project life cycle and determine who must be involved in each phase and who merely needs to be kept informed of the progress made.

Opportunity management determines the payback of the project within the initiation stage. Although the payback period is defined by Kerzner as the least precise of all capital budgeting methods because the calculations are in dollars and cannot adjusted for the

# PPMAI 53rd ANNUAL GENERAL MEETING

Held on Wednesday, the 27th September 2017  
from 6.30 p.m. onwards  
at Orchid Hotel, Near Santacruz Airport, Mumbai - 400 099

Report

Secretary General Mr. V.P. Ramachandran invited the Chairman and Dy. Chairmen, to the dais.

Mr. Anil Rairikar, Chairman gave a warm welcome to all the participants and other important dignitaries particularly those who have come from outside Mumbai. After giving the welcome speech, he called the meeting to order since there was adequate quorum available and took the agenda for discussion.

## 1. TO APPROVE AND ADOPT THE REPORT OF THE BOARD OF DIRECTORS AND THE AUDITED ACCOUNTS OF THE ASSOCIATION FOR THE YEAR ENDED MARCH 31, 2017

Mr. Anil Rairikar, Chairman took the first item on the Agenda and said that "the Report of Directors and the Audited Accounts are already with you. With your permission, I take it as read. I would be happy to take questions or comments if any." Since there were no comments, Mr. Anil Rairikar proposed that the Audited Accounts for the period 2016-2017 be approved.

**Mr. Ajay Papat seconded it.**

Chairman put it to vote and the following resolution passed unanimously:

**"RESOLVED THAT the Report of the Board of Directors and the Audited Accounts of the Association for the year ended 31st March 2017 be and are hereby approved and adopted"**

## 2. ELECTION OF BOARD OF DIRECTORS FOR THE PERIOD 2017-2018:

Chairman said that "we have to elect twelve (12) Board of Directors. The elected Directors then can co-opt up to eight (8) additional Directors. We have received Ten (10) valid nominations. I therefore propose that instead of having election, as per our convention, we will declare the first Ten (10) nominations, in order of receipt, as elected. The new Board may then co-opt the balance Ten (10) to the Board. Thus we will have a Board of twenty (20) Directors".

**Mr. Sudhir Mutalik seconded the proposal.**

Chairman then put the proposal to vote. Since there was unanimity on this point, he requested the Secretary General, Mr. V.P. Ramachandran to read the names of the persons whose valid nominations were received including of those to be co-opted. Mr. Ramachandran, Secretary General, read the list of nominations as follows:

1	Mr. Yatinder Pal Singh Suri	Dy. Chairman	Outokumpu India Private Ltd
2	Mr. K. Nandakumar	Dy. Chairman	Chemtrols Industries Private Ltd
3	Mr. Anil V. Parab	Director	Larsen & Toubro Limited
4	Mr. Manish Bhuptani	Director	TUV India Private Ltd
5	Mr. S. Ilanchezhian	Director	BGR Energy Systems Ltd.
6	Mr. Kevin Shah	Director	Munters India Humidity Control Private Limited
7	Mr. Hasanain Mewawala	Director	Expo Gas Containers Ltd.
8	Mr. Sandeep Date	Director	ThyssenKrupp Industrial Solutions (India) Pvt. Ltd.
9	Mr. Prithvi Hegde	Director	Crystal Industrial Syndicate Pvt. Ltd
10	Mr. Shrikar Sule	Director	Aker Powergas Pvt. Ltd.
11	Mr. Sudhir Mutalik	Director	Positive Metering Pumps (I) Pvt. Ltd.
12	Mr. Kishore Mehta	Director	Indus Projects Ltd

13	Mr. Mahesh Deshpande	Director	Toyo Engineering India Pvt. Ltd.
14	Mr. Abhijit Dani	Director	Praj Industries Ltd.
15	Mr. Vijay Raj Purohit	Director	Chemical Process Piping Private Ltd
16	Mr. Somir Banerjee	Director	Jacobs Engineering India Private Ltd
17	Mr. Ajay Anoop Popat	Director	ION Exchange (India) Limited
18	Mr. Deodatta Deshpande	Director	Thermax Limited
19	Mr. Abby K. Joseph	Director	voestalpine Bohler Welding India Pvt. Ltd.

Mr. Anil Rairikar, Chairman declared the following first Ten (10) nominees as elected to the Board.

1	Mr. Yatinder Pal Singh Suri	Outokumpu India Private Ltd
2	Mr. K. Nandakumar	Chemtrols Industries Private Ltd
3	Mr. Anil V. Parab	Larsen & Toubro Limited
4	Mr. Manish Bhuptani	TUV India Private Ltd
5	Mr. S. Ilanchezhian	BGR Energy Systems Ltd.
6	Mr. Kevin Shah	Munters India Humidity Control Private Limited
7	Mr. Hasanain Mewawala	Expo Gas Containers Ltd.
8	Mr. Sandeep Date	ThyssenKrupp Industrial Solutions (India) Pvt. Ltd.
9	Mr. Prithvi Hegde	Crystal Industrial Syndicate Pvt.Ltd
10	Mr. Shrikar Sule	Aker Powergas Pvt. Ltd.

### 3. APPOINTMENT OF AUDITORS & THEIR REMUNERATION FOR THE YEAR 2017-2018:

The Chairman said that M/s. Fatehi & Co. had given satisfactory services to the Association during the period 2016-2017. He proposed that they might be re-appointed as Auditors for the year 2017-2018 at a remuneration, which may be decided by Secretary General in consultation with the newly elected Board.

Mr. Vijay Rajpurohit seconded the proposal.

Chairman put it to vote and the following resolution was passed unanimously:

**“RESOLVED THAT pursuant to the provisions of Section 139 and all other applicable provisions of the Companies Act, 2013 (the “Act”) read with Rule 3(7) of the Companies (Audit and Auditors) Rules, 2014 (including any statutory modification(s) or re-enactment thereof for the time being in force), the Company hereby ratifies the appointment of M/s. Fatehi & Co., Chartered Accountants, (Firm Registration No. 102841W), as the Statutory Auditors of the Company to hold office from the conclusion of this meeting until the conclusion of the 54th Annual General Meeting, on such remuneration as may be determined by the Board of Directors.”**

Mr. Anil Rairikar announced that the Agenda on the AGM was over. He then inquired whether any member had any observation or comments.

Since there were no other questions or comments, Chairman said now that the AGM proceedings are over. Mr. Rairikar then said that before we go further on the proceedings, there are amongst us, companies and individuals, who have had outstanding achievements to their credit. PPMAI would like to felicitate them with Achievement & Excellence Awards. He then requested Mr. V.P. Ramachandran, Secretary General to inform the audience about achievements of Individuals and companies and request the representatives of the company and the individuals to come to the dais to accept the awards.

Mr. V.P. Ramachandran, Secretary General read the citations and asked the concerned person to come forward to receive the award.

- a. **AARVI Encon Pvt. Ltd.** has received **HSE Excellence Award** by CAIRN in recognition for being their “Safe Contractor of the Month” June 2017.

Mr. Ramachandran invited **Mr. Virendra D. Sanghvi** to receive the Award from **Mr. Anil Rairikar** on behalf of PPMAI



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#### Industrial



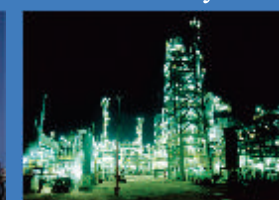
Tyre Manufacturing Plant  
Bridgestone ACC India Ltd.

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# PPMAI 53rd ANNUAL GENERAL MEETING

GALLERY



Mr. V.P. Ramachandran, Secretary General inviting the Delegates to the dais and giving introduction



Conduct of AGM



Mr. Anil Rairikar, Chairman giving welcome speech



Outgoing Chairman Mr. Anil Rairikar welcoming the newly elected Chairman Mr. Yatinder Singh Suri with a flower bouquet



Newly elected Chairman Mr. Yatinder Singh Suri addressing the audience



Mr. Anil Rairikar, the outgoing Chairman welcoming Prof. M.M. Sharma (Chief Guest) to the dais with a flower bouquet



# PPMAI 53rd ANNUAL GENERAL MEETING

## GALLERY



The outgoing Chairman Mr. Anil Rairikar receiving memento from the newly elected Chairman Mr. Yatinder Singh Suri



Prof. Manmohan Sharma, Chief Guest addressing the audience



Mr. Vijayraj Purohit, Director giving memento to Prof M.M. Sharma (Chief Guest) as a token of appreciation



Section of Audience



Leaders from the Industry



Dy. Chairman Mr. K. Nandakumar giving Vote of Thanks

- b. **Larsen & Toubro Ltd** has received an Award for Star Performer for the year 2015-16 in the category of Miscellaneous General Purpose Machinery – Large Enterprise from EEPC India  
Mr. Ramachandran invited **Mr. Sanjay Sharma**, to receive the Award from **Mr. Anil Rairikar** on behalf of PPMAI.
- c. **ThyssenKrupp Industrial Solutions India Pvt. Ltd.** received Awards for:  
Export Excellence Award in Engineering Process Outsourcing Services – Medium Enterprises by EEPC India and Sustainability Award for 2017 from Indo German Chamber of Commerce.  
Mr. Ramachandran invited **Mr. Sandeep Date** to receive the Award from **Mr. Anil Rairikar** on behalf of PPMAI.
- d. **TOYO Engineering India Pvt. Ltd.** has received an Award of appreciable achievement in Occupational Safety & Health – Safety Awards 2016 from National Safety Council, India.  
Mr. Ramachandran invited **Mr. Mahesh Deshpande** to receive the Award from **Mr. Anil Rairikar** on behalf of PPMAI.  
Since no representative from the company was present, PPMAI Secretariat will deliver the Award to Toyo Engineering India Pvt. Ltd., personally.
- e. **PRAJ Industries Limited** has received Safety Awards 2016 from National Safety Council for efforts in the area of Health, Safety & Environment.  
Mr. Ramachandran invited **Mr. Abhijit Dani** to receive the Award from **Mr. Anil Rairikar** on behalf of PPMAI.  
Since no representative from the company was present, PPMAI Secretariat will deliver the Award to Praj Industries personally.
- f. **BGR Energy Systems Limited** has received Star Performer of the year 2015-16 in the category of Miscellaneous General Purpose Machinery – Large Enterprise from EEPC India.  
Mr. Ramachandran invited **Mr. Satheesh** to receive the Award from **Mr. Anil Rairikar** on behalf of PPMAI.
- g. **Ms. Sharmila H. Amin, Managing Director – South Asia, India, Bertling Logistics India Pvt. Ltd. has received various awards for her individual achievements.**  
Woman Professional of the Year 2016 – Maritime and Logistics Award 2016, Woman in Logistics of the year 2016 - Supply Chain Management Professionals, Women Entrepreneur in the Logistics Industries of the year 2016 - Times of India Group  
Mr. Ramachandran invited **Ms. Sharmila Amin** to receive the Award from **Mr. Anil Rairikar** on behalf of PPMAI.

Mr. Rairikar said I now call the AGM as closed; however I request all of you to please be seated. This meeting will be followed by the first Board meeting. Those of you who are not the Directors on the Board, I am inviting them also to the first Board Meeting of 2017-18 as observers.

He then called the first Board meeting to order and took the first item on agenda the co-option of Directors. He proposed that the **Nine** persons whose names have already been read may be considered as co-opted to the Board.

**Mr. Sanjay Sharma** seconded the proposal and the following resolution was passed unanimously.

**“Resolved that the following nine names have been co-opted as Board of Directors for PPMAI Board for the period 2017-2018”**

1	Mr. Sudhir Mutalik	Positive Metering Pumps (I) Pvt. Ltd.
2	Mr. Kishore Mehta	Indus Projects Ltd
3	Mr. Mahesh Deshpande	Toyo Engineering India Pvt. Ltd.
4	Mr. Abhijit Dani	Praj Industries Ltd.
5	Mr. Vijay Raj Purohit	Chemical Process Piping Private Ltd
6	Mr. Somir Banerjee	Jacobs Engineering India Private Ltd
7	Mr. Ajay Anoop Popat	ION Exchange (India) Limited
8	Mr. Deodatta Deshpande	Thermax Limited
9	Mr. Abby K. Joseph	voestalpine Bohler Welding India Pvt Ltd.

Mr. Anil Rairikar said the next item on agenda is the election of Chairman. Traditionally the outgoing Chairman has the privilege of proposing the name of the incoming Chairman. Then he proposed **Mr. Yatinder Singh Suri** be elected **Chairman** of the Board of PPMAI for the period 2017-2018.

Mr. Yatinder Singh Suri, An IIT Kharagpur alumnus and Professionally acclaimed for his passion to promote anything stainless – be it steel, people or ethical values in all walks of society and industrial practices.

His ethical grooming comes from his value based upbringing through close association with the Tata Group. He was the third generation from his family to join the Tata Group to learn the first lessons in professional management. He started his professional career with Tata Motors in 1975.

His value based leadership principles helped him achieve successes in enhancing productivity in auto production and later turning around special steel companies into global and profitable entities during the nineties.

His eagerness to accept new challenges made him travel to the world of eCommerce in steel in Year 2000. To him eCommerce meant ethical commerce and he led the pioneering initiative on these lines successfully.

Currently, Yatinder Suri is the MD & Country Head of Outokumpu India which is the Indian subsidiary of Finnish Group Outokumpu - the oldest and largest manufacturer of stainless steel. In a short span of about 10 years, Outokumpu has emerged as a brand preferred by the stainless steel end users in India.

He is on the board/committees/panels of various platforms like Indo Finnish Business Forum, Process Plant and Machinery Association of India, Confederation of Indian Industry -Corrosion Management Committee, Chemtech Foundation etc.

He is a Distinguished Services Alumni awardee from IIT Kharagpur, President of IITians for Holy Ganga, Past President of IIT Kharagpur Alumni Association North and Founder Secretary of IIT Kharagpur Foundation India.

There was unanimity amongst the Board of Directors in electing of Mr. Yatinder Singh Suri as Chairman for the period 2017-2018 and the following resolution passed.

**“Resolved that Mr. Yatinder Singh Suri is elected as Chairman unanimously by all Board of Directors for the period 2017-2018”**

Mr. Anil Rairikar thanked the Board and Members for accepting his proposal and he congratulated Mr. Yatinder Singh Suri on his unanimous election as Chairman for the year 2017-2018. Mr. Rairikar requested Mr. Suri to take charge of the meeting.

Mr. Yatinder Singh Suri thanked the Board and Members for electing him unanimously as Chairman for the year 2017-2018. Mr. Suri then expressed his new ideas and innovations towards the growth of PPMI and to promote and protect the interest of Indian process plant industry and project the capabilities of its members at National and International levels thereby enhance PPMI branding further.

Mr. Suri then said “Before I move to my seat and start proceedings of the Board Meeting, I would like to place on record appreciation of the PPMI Board and its members for the excellent leadership provided by Mr. Anil Rairikar for the past two years as Chairman. From a personal point of view, your warm friendship and support have been very important to me throughout the last 2 years. I can say, you leave PPMI a better organization and on a strong footing for those who follow you.

On behalf of the Board of PPMI and its members, it is our pleasure to thank you for the great job you have accomplished during your term and wish you all the very best in your endeavors and we look forward to your ongoing involvement in PPMI.

**As a token of appreciation Mr. Yatinder Suri handed over a memento to Mr. Rairikar on behalf of PPMI.**

After receiving the memento Mr. Rairikar said it has been privilege to be the chairman of the august organization for the year 2015 – 17 (last two years). I would like to really thank all of you for electing me as a chairman and showing confidence on me. The journey for the last two years of PPMI was really interesting. I developed special relationship with each and every one, office bearers as well as the people who supported this organization.

As I mentioned earlier that the board of directors who contributed immensely during the course of the board meeting as well as representing us at various forums with the organizations, associations and with the Government and I really thank them all for their efforts. I also thank once again the secretarial staff of PPMI and Mr. Ramachandran specially, without their efforts my functioning would not have been as what I could do. Thanks once again and I wish PPMI all the best for the future growth and strengthening one by one to climb on the higher steps. I wish everybody all prosperity and success in the coming years.

After the speech of Mr. Rairikar, Mr. Yatinder Singh Suri said “The next item on the agenda is election of the two Dy. Chairmen. Conventionally it is the privilege of incoming Chairman to propose the names for the post. I propose **Mr. K. Nandakumar** for the post of Dy. Chairman.

Mr. K. Nandakumar is the Founder and Managing Director of the Chemtrols Group. Started in 1975, Chemtrols is one of India's Leading Solutions Provider in Process Analytics, Flow and Terminal Automation, Environment Monitoring, Process Measurements, Steam Conditioning Solutions and Utility Management.

A Chemical Engineer with specialization in petroleum refining from the batch of 1970 - Government Engineering College, Trichur, Kerala, Mr. Nandakumar worked with Cochin Refineries and FACT (Fertilizers & Chemicals Travancore Ltd.) before embarking on his entrepreneurial venture – Chemtrols.

Mr. Nandakumar is also Member of Capital Goods Skill Council (CGSC), Government of India

The proposal was seconded by **Mr. Kevin Shah** and the following resolution passed unanimously.

**“Resolved that Mr. K. Nandakumar is elected unanimously as Deputy Chairman of PPMI Board for the period 2017-2018”**

Mr. Suri said it is our convention that one of the Dy. Chairmen may be from the manufacturing companies and the other may be from consulting companies. Since **Mr. Nandakumar** is from the raw material manufacturing company, I propose **Mr. Anil V. Parab** from the consulting company as Dy. Chairman for the period 2017-2018.

Mr. Anil V. Parab is Mechanical Engineer from V.J.T.I., Mumbai (1982) and is working as Vice President (Process Plants & Nuclear) in Heavy Engineering. He heads Process Plant & Nuclear Business Units at Hazira, Powai & Vadodara. He is appointed as Director of L&T Heavy Engineering LLC, Oman (JV with The Zubair Corp., Oman) and L&T EWAC Alloys Limited.

He acquired Senior Executive Management Education from London Business School & Indian Institute of Management (Ahmadabad). He studied Computer Aided Manufacturing from IIT, Mumbai.

He possesses more than 3 decades of vast experience in Technology & Business Development.

He is Fellow of Indian National Academy of Engineers (INAE). He is member of Program Advisory Committee of Department of Science & Technology. He represents L&T in various industrial forums viz. IAIF, USIBC, FICCI, CII and ASSOCHAM and actively interacts with various Ministries.

**Mr. Nandakumar seconded the proposal** and the following resolution passed unanimously.

**“Resolved that Mr. Anil V. Parab is elected unanimously as Deputy Chairman of PPMI Board for the period 2017-2018”**

Mr. Suri thanked the Board for the unanimous approval of his proposals. He said I look forward to closely working with Mr. Nandakumar and Mr. Anil Parab to further the cause of the industry.

Actually I am personally delighted to have Mr. Anil Parab as one of our Dy. Chairmen, with the kind of background, branding, drive, technical competence he has. I think it is a great opportunity for PPMI to make its mark in various forums with excellent Dy. Chairmen that we have on the board this year.

Mr. Suri declared the first Board Meeting as closed. He then invited Mr. Nandakumar to give introduction of Prof M.M. Sharma, Guest of Honour for the event.

Mr. Nandakumar said “Today we have the honour of having Prof M.M. Sharma as Guest of Honour for the event.

In fact Prof. Sharma does not need any introduction. He is a doyen in Chemical engineering. Yet we have the formalities of introduction, he added.

Prof. Man Mohan Sharma is a Chemical Engineer and educated at Jodhpur, Mumbai and Cambridge. At the age of 27 years, he was appointed Professor of Chemical Engineering in the Institute of Chemical Technology (UDCT), Mumbai. He later went on to become the Director of Institute of Chemical Technology (ICT/UDCT/UICT), the first chemical engineering professor to do so from ICT.

He remained as Professor for 33 years at UDCT, along with 8 years as Director of this institute. He has been honoured by several universities including IITs by honorary doctorates.

In 1990, he became the first Indian engineer to be elected as a Fellow of Royal Society, UK. He has various achievements to his credit. He served in Petroleum and Natural Gas as Chairman of the SAC and in the SAC to Cabinet and PM. He was INSA Council Member (1980–82) and Vice-President (1987–88).

Prof Sharma made contributions to chemical engineering science and technology. He also became an independent Editor of Chemical Engineering Science, UK at a young age. Professor Sharma is a recipient of a number of prestigious academic honours and awards and won

- Leverhulme Medal of the Royal Society "for his work on the dynamics of multi-phase chemical reactions in industrial processes".

- Awarded the Padma Vibhushan (2001), and Padma Bhushan (1987) by the President of India.
- The S.S. Bhatnagar Prize in Engineering Sciences (1973),
- FICCI Award (1981), the Vishwakarma medal of the Indian National Science Academy (1985),

I thank him for agreeing to spend the evening with us and now request him to share his thoughts with this August gathering.”

Mr. Nandakumar invited Prof. Sharmato share his thoughts with this August gathering.

Prof. Manmohan Sharma has given a really invigorating talk covering the opportunities, possibilities and prospects in the entire spectrum of Chemicals, Petrochemicals, Fertilizers and Pharmaceutical Industries in India.

Prof. Sharma highlighted that there is a great future in the Industry; a lot of engineering and equipment are required. He said that potential is exceptionally high, the will to do and policy desirous are found wanting and yours is an association should make noise along with the concerned organization like ICC and guarantee good future for both of them.

Mr. Suri thanked Prof Sharma for his excellent speech and invited Mr. Vijay Rajpurohit to handover a memento to Prof Sharma. Mr. Vijay Rajpurohit handed over a mementoto Prof Sharma as a token of appreciation on behalf of PPMAl.

Mr. Suri then invited Mr. Kumud Jhamb, Vice President, Alfa Laval India Pvt. Ltd. (Platinum sponsor) and Mr. Manish Bhuptani, Managing Director, TUV India Pvt. Ltd. (Diamond Sponsor) to display their presentations to the gathering.

After the presentation of M/s. Alfa Laval India and TUV India Mr. Suri invited Mr. Nandakumar, Dy. Chairman, PPMAl to deliver Vote of Thanks.

Mr. Nandakumar gave vote of thanks to all the delegates as follows:

It is my great pleasure to give vote of thanks. Dear members of PPMAl, Ladies and Gentlemen, Chief Guest Prof. Manmohan Sharma.

Prof. Manmohan Sharma has given a really invigorating talk on chemical industry in India. I must say that the speech covering the entire spectrum of Chemical industry. Can lay the roadmap for the coming 10 years for India to become a global giant in chemical industry? No doubt. As a mark of our respect I request all our esteemed guests to give standing ovation to Prof. Sharma. Thank you Prof Sharma for giving us the guidance and opportunities for hosting you this evening sir.

I will not stand with vote of thanks too much, but certainly certain things which I would like to talk. Our outgoing chairman Mr. Anil Rairikar, he may think that he has step down, but Mr. Rairikar we will not leave you, you need to give us your guidance and time then only the associations like PPMAl can certainly come up. Thank you for leading this organization for the last two years, the very challenging time. We look forward to your time again.

I thank Yatinder Suri, my friend for accepting our request to become the Chairman and to lead PPMAl in the coming two years. Certainly we need your leadership and we assure you from PPMAl that total support will be given to you to take us into growth orbit, thank you.

I also thank all PPMAl board of directors for giving their valuable time over the last year and also for the coming years. At the same time I also thank all the advertisers for supporting PPMAl through our magazine and also the faculties for training and conducting seminars and workshops.

Before I conclude, I thank all our sponsors Alfalaval India Pvt. Ltd., TUV India Pvt. Ltd., Outokumpu India Pvt. Ltd., Jacobs Engineering India Pvt. Ltd., BGR Energy Systems Ltd., Chemtrols Industries Pvt. Ltd., Toyo Engineering India Pvt. Ltd., Crystal Industrial Syndicate Pvt. Ltd., Chemical Process Piping Pvt. Ltd, Larsen & Toubro Limited and Positive Metering Pumps (I) Pvt. Ltd. for their sponsorship support and look forward to their continued support for the days to come not only for the AGM but also for regular events. As you all know we publish our PPMAl journal and we look forward support from all the members for the magazine with advertisements, technical articles and also participating in training programmes.

Thank you each one of you, all the delegates, all the members and all the participants for today's AGM.

Finally I thank PPMAl secretariat for giving maximum support. Thank you all the staff of PPMAl secretariat.

Mr. Nandakumar concluded his vote of thanks by requesting everybody to join the cocktail and dinner.



## Kutch Chemicals inks contract for caustic soda plant with thyssenkrupp

Thyssenkrupp Industrial Solutions (India) has won a contract from Kutch Chemicals Limited, the Gujarat-based speciality chemicals major, for its grassroots 421 tpd (100% NaOH) membrane cell caustic soda-chlorine facilities in Kutch, Gujarat. thyssenkrupp will provide engineering services, construction supervision services and supply proprietary equipment for the new facility. Start-up of the plant is scheduled for March 2019.

The plant will deploy thyssenkrupp's leading membrane cell technology which is at work across a majority of Indian caustic soda installations. At the heart of the plant will be the group's latest zero-gap, energy and emission -friendly 6B Generation Cell Elements from thyssenkrupp Uhde Chlorine Engineers, a worldwide supplier of leading technologies and comprehensive solutions for high-efficiency electrolysis plants.

The scope of services includes basic and detail engineering, project management services including technical procurement, proprietary supplies, supervision during civil and structural erection work as well as supervision services during start-up, commissioning and performance test run.

Kutch Chemicals proposes to use the chlorine manufactured in the plant for its speciality chemicals, while it will sell the caustic soda over the counter. The flagship company of the Goyal Group of Industries, which is amongst India's leading speciality chemicals players, is engaged in the manufacturer of a variety of speciality products involving chlorination, nitration, sulfonation, hydrogenation, ethoxilation and ammonolysis processes. It boasts a global footprint with markets in more than 30 countries worldwide.

thyssenkrupp Industrial Solutions is well-recognized in India and abroad for plants for the production of caustic soda, chlorine and chlorine derivatives. Over 70 percent of the caustic soda-chlorine installed membrane cell capacities in India are based on the company's proprietary bipolar single-element design membrane cells that are environment-friendly, long-lasting, energy-efficient and cost-effective.

About us:

The Industrial Solutions business area of thyssenkrupp is a leading partner for the engineering, construction and service of industrial plants and systems. Based on more than 200 years of experience we supply tailored, turnkey plants and components for customers in the chemical, fertilizer, cement, mining and steel industries. As a system partner to the automotive, aerospace and naval sectors we develop highly specialized solutions to meet the individual requirements of our customers. Around 21,000 employees at over 70 locations form a global network with a technology portfolio that guarantees maximum productivity and cost-efficiency.

The Electrolysis & Polymers Technologies business unit combines decades of engineering know-how and leading technologies in the fields of electrolysis, polymers, bio-polymers, base chemicals, as well as gas and high-pressure technologies. Our product range also includes innovative storage solutions for the growing renewables sector. We translate our extensive knowledge of processes and plant design into cost- and resource-efficient solutions and expert service for customers around the world.

For more information visit: [www.thyssenkrupp-industrial-solutions.com](http://www.thyssenkrupp-industrial-solutions.com)

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Mr PD Samudra, MD & CEO, thyssenkrupp Industrial Solutions (India) exchanges a copy of the signed agreement with Mr. Shival Goyal, Chairman and Mr. Jay Prakash Goyal, Director-Finance/Commercial of Kutch Chemicals in the presence of Mr PN Ojha, Executive Director, and other officials from the two companies



# ION EXCHANGE

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*To be of significant value for the water treatment industry and the nation*

Pioneers in water treatment and India's premier water and environment management company, Ion Exchange (India) Limited today inaugurated India's first state-of-the-art, completely integrated and automated Reverse Osmosis membrane manufacturing plant at Verna Industrial Estate, in Goa, India. Honourable Chief Minister of Goa, Shri. Manohar Parrikar inaugurated the plant with much enthusiasm and interest. The plant has been set up with an objective to provide India's water treatment industry and global OEMs a range of quality Reverse Osmosis membranes for water and waste water applications.

Known to be the first company in India to apply Reverse Osmosis system as a complimentary process to Ion Exchange resin technology, Ion Exchange has undertaken indigenous research and development to develop Reverse Osmosis membranes based on composite polyamide technology. The company has invested over Rs. 50 crores in order to set up India's first modern Reverse Osmosis membrane manufacturing plant and aims to garner 20% market share in the next three years. The plant will have the capacity to meet the domestic demand and also meet export obligations.

Speaking on the inauguration, Mr. Rajesh Sharma, Chairman & Managing Director of Ion Exchange (India) Ltd. said, "Setting up of this sophisticated Reverse Osmosis manufacturing plant in the state of Goa, India is one more step towards our commitment in providing world-class technology and solutions for Total Water and Environment Management for industries, homes and communities. This initiative will reduce dependence on imported membranes and also earn valuable foreign exchange through exports. Thus the integrated Reverse Osmosis plant will prove to be of great importance for the water treatment industry and our nation."

With over 50 years of expertise, Ion Exchange (India) is among the few companies worldwide with an entire range of technologies, processes, products and services catering to every sector – industrial, institutional, municipal and households - urban and rural.

### Background

Ours was the first company in India to apply Reverse Osmosis system as a complimentary process to Ion Exchange resin technology by setting up the first Industrial Reverse Osmosis plant in 1978. Following this commercial breakthrough, in Reverse Osmosis technology we invested in setting up India's first Reverse Osmosis membrane manufacturing plant in 1989 near Halol, Gujarat. This plant produced world class Reverse Osmosis membranes using cellulose triacetate membrane technology which got replaced with introduction of composite polyamide technology.

Later in 1997 we commissioned India's then largest Seawater Reverse Osmosis (SWRO) plant at Gujarat Electricity Board Sikka Thermal Power Station. In our pursuit to develop membrane technology for providing alternate sources of water to industries in particular, we pioneered development of membrane processes and systems using Reverse Osmosis to recycle industrial effluents. Today, we have several industrial effluent recycle systems operating successfully in diverse industries like Refineries, Petrochemicals, Food & Beverages, Textiles, Steel, Power, etc. Concurrent to these developments we also pioneered the application of Reverse Osmosis membranes for domestic home water appliances under our brand name of Zero B Pristine. Today we have the largest reference base for Reverse Osmosis systems. Seawater Reverse Osmosis plants, Industrial Effluent Recycle systems and Brackish Water Reverse Osmosis systems.

### About Ion Exchange (India) Limited

A pioneer of water treatment in India with a legacy spanning over five decades, Ion Exchange (India) Limited is recognised internationally as a premier company in water and environment management. Ion Exchange is among the largest environment solutions providers, one of very few companies worldwide with a complete range of technologies, products and comprehensive 24/7 service support. This enables us to offer total solutions for every sector of society – industries, homes & communities.

With sales, production and service footprints across the globe, Ion Exchange serves its markets with a sustained focus on customer satisfaction, technological innovation and dedicated service. Their capability to deliver comprehensive solutions with complete technical support makes them a partner to depend on.

Specialists in water and waste water, Ion Exchange offers total water and environment management solutions for all sectors - infrastructure, industry, institutions, municipal, homes and communities, urban and rural.

360° environment management adds value across the entire circuit - from influent water through potable and industrial process water to effluent/sewage treatment and water recycle for zero discharge and waste to energy projects for solid waste management.

Manufacturer of world class ion exchange resins for water and non-water speciality applications, membranes, water treatment chemicals and speciality process chemicals, in ISO 9001, 14001 and OHSAS 18001 certified facilities.

Design and supply of water, process liquid, waste water treatment, water recycle plants - packaged, pre-engineered and custom-built, on turnkey, BOT and EPC basis.

For more information, kindly visit [www.ionindia.com](http://www.ionindia.com)



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We are pleased to inform you that Mr. Anil Rairikar - Regional Director, India & South Asia has been awarded the "Manager of the year 2017", at the General Managers' Meeting held in Germany, on 19th October 2017. This is a proud moment for TUV India and we congratulate Mr. Rairikar for this enormous achievement. While accepting the award Mr. Rairikar stated, "This award belongs to Team India, back home, as this is the outcome of their support, hard work, dedication and commitment." Mr. Rairikar thanks each and every member of TUV India for the contribution.

(L-R) **Dr. Ralf Jung**  
 - Chairman, TÜV NORD - BU Industrial Services,  
**Anil Rairikar**  
 - Regional Director, India and South Asia &  
**Dr. Dirk Stenkamp**  
 - Chairman, TÜV NORD AG



technical talk

**Opportunity Management** - Continued from Page No. 8

time value of money. By establishing the payback period within the opportunity management process, project managers may continually assess the project expenditures and re-evaluate the payback period on an ongoing basis.

Project management is the planning, delegating, monitoring and controlling of all aspects of the project, and the motivation of those involved, to achieve the project objectives within the expected performance targets for time, cost, quality, scope benefits and risks. The monitoring and control phase of project management mirrors fairly closely stage gate decision making, although stage gate decision making addresses potential problems earlier in the project management cycle. Like the monitoring and control phase, the logic model employed in opportunity management observes and monitors the project performance on an ongoing basis. The logic model helps a firm to outline the sequence of events related to the project. In a nutshell, a logic model is a valuable tool that produces a basic program "picture" that shows how the organisation's program is intended to do work. If the project is determined to be unable to meet the criteria outlined in the opportunity management process, the project or opportunity managers will take measures to correct the problems and put the project back on track.

**Community capacity building**

Capacity building is designed to promote change. Capacity building may be defined as anything that increases the ability and/or desire of groups, businesses, municipalities, not-for-profit organizations to effectively engage in community economic development. Stakeholders such as Governments can contribute to environmental community capacity building not only through the provision of practical support in terms of resource provision and throughout the opening up of information and communication channels for communities, but also ensuring that there is meaningful collaboration with communities.

Capacity building is an approach to economic development that focuses on understanding the difficulties that prevent people, governments, organizations from recognizing their developmental goals while enhancing the abilities that will allow them to achieve measurable and sustainable results. It involves training and development activities that get the community actively involved in the development of their locality. Put simply, capacity building is any initiative that increases the desire or ability of individuals, groups and organisations to effectively participate in economic development activities. Community capacity building assists groups by enhancing skills essential to regional economic planning, development and implementation. Capacity building cannot be seen or undertaken in isolation as it is deeply embedded in the social, economic and political environment. It is about strengthening peoples capacity to determine their own values and priorities and to act on these, which gives us the basis of development. In examining community capacity building and local economic development, it is essential to recognise the importance of building links between social economy organisations and the private sector as well as governments in order to address the complex social and economic problems which all communities confront.

Along with "empowerment", "participation", and "gender equality", capacity building is seen as an essential element if development is to be sustainable and centered in people. Developing opportunity management systems is an important part of opportunity management since the model since it allows organizations to identify the most effective allocation of resources. Since communities have fixed resources, opportunity management is a useful tool to identify the most utilitarian allocation of resources to achieve the maximum benefit. The essential criteria for all initiatives should be included and must not be wasted as all organisations face limited resources. Community capacity building has the potential to reach into social and economic life and contribute to building stronger, more cohesive and resilient communities.



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# ADVERTISEMENT TARIFF

## PPMAI Speak Bi-Monthly Bulletin

Full Page Colour	Amount
Back Cover Outside / Inside	₹ 25,000.00 + 5% GST
Inside Front Cover	₹ 25,000.00 + 5% GST
Inside Full Page	₹ 20,000.00 + 5% GST

Specification of our publication is as follows:

Period : Bi-monthly  
 Print Size : A-4  
 Print Process : Offset 4 colour  
 Paper used for cover : 170 gsm Sinarmass Coated Art Paper with matte lamination  
 Paper used for inside : 130 gsm Sinarmass Coated Art Paper

Advt. Size Artwork should be A4 size for full page advt. ( 210 mm width x 297 mm height). All advertisement will be in 4+4 CMYK Colours.

Payment:

- Payment for banner advertisement should be made in advance by Cheque / DD in the favour of, "Process Plant and Machinery Association of India" payable at Mumbai along with release order

## PPMAI Website

Internet today has made the world small place and easily reachable nay it is the best and fastest medium to reach and access global markets. Airing advertisements on website is definitely an economical way to propagate your company and publicize your products world-over. Keeping this in mind, we have earmarked seven strips for advertisements on our website.

[www.ppmmai.org](http://www.ppmmai.org)

gives you an opportunity to advertise worldwide

₹ 10,000/- per annum  
(plus GST as applicable)

We are pleased to inform you that PPMMAI website [www.ppmmai.org](http://www.ppmmai.org) is now fully revamped with new look and features.

Advertisers may modify their advertisement matter every quarter.

- The rate includes free link to your existing website
- The banner will be designed and provided by the advertiser as per specified size
- The banner will be in the form of JPEG or GIF file and its size will not exceed 20kB

Payment:

- Payment for banner advertisement should be made in advance by Cheque / DD in the favour of, "Process Plant and Machinery Association of India" payable at Mumbai along with release order

## PPMAI eSpeak Journal | soft copy (Published twice in a month)

₹ 10,000/- per annum  
(plus GST as applicable)

- Advertisers may change their advertisement matter every quarter
- The rates quoted are exclusive of service tax
- The size of the ad should be around 40 kb max. Logos or Images will not be entertained
- A format will be provided by PPMMAI wherein the advertiser can furnish the advertisement matter

Payment:

- Payment for banner advertisement should be made in advance by Cheque / DD in the favour of, "Process Plant and Machinery Association of India" payable at Mumbai along with release order

## PPMAI Newsletter | soft copy (Published twice in a month)

₹ 10,000/- per annum  
(plus GST as applicable)

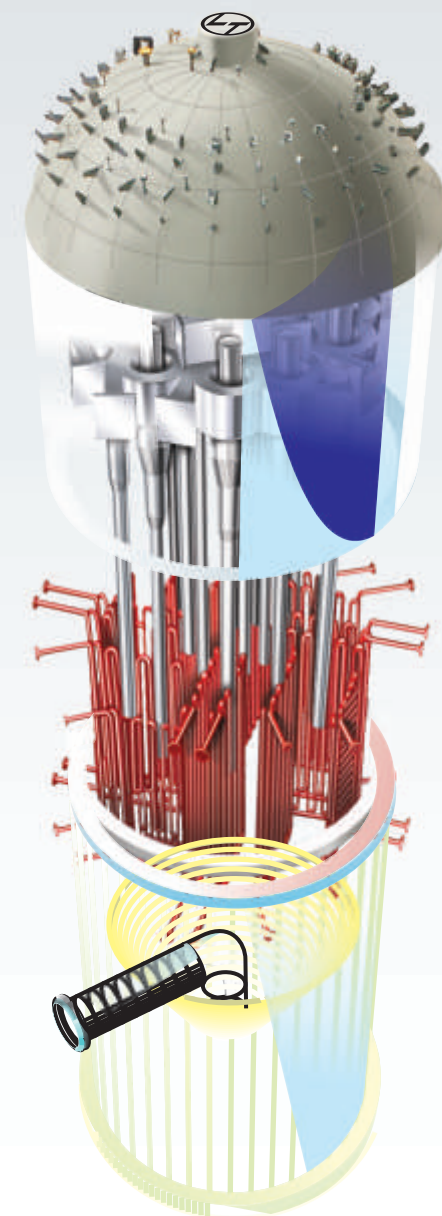
- Advertisers may change their advertisement matter every quarter
- The rates quoted are exclusive of service tax.
- The size of the ad should be around 40 kb max. Logos or Images will not be entertained.
- A format will be provided by PPMMAI wherein the advertiser can furnish the advertisement matter.

Payment:

- Payment for banner advertisement should be made in advance by Cheque / DD in the favour of, "Process Plant and Machinery Association of India" payable at Mumbai along with release order

For enquiries and queries contact :

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## 4 Global Benchmarks One Company: Larsen & Toubro

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