

# Vconnect

Vol. 22, No. 1

The Employee Communication Newsletter of L&T Valves

January 2022



Diamond Jubilee Special

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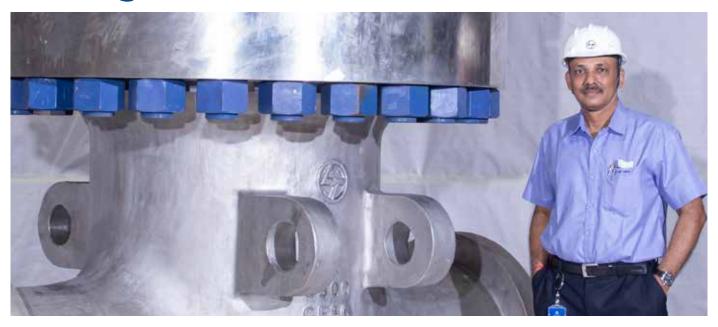
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## Message from the Chief Executive



Dear Colleague,

I wish you and your family a year of health, happiness, harmony.

This year, as you know, we celebrate our Diamond Jubilee. This is an exciting period for our company and each one of us, and I consider it an honour and privilege to be part of L&T Valves during this historic juncture.

The jubilee offers us an opportunity to pause and reflect upon time and transition, our heritage and hopes, the past and the future...It also gives us an opportunity to rededicate ourselves to the core values that built L&T Valves.

Our vision is 'to make L&T Valves the most trusted valve company in the world' and we have recently launched a visionalignment initiative. When participating in the exercise, do remember that if we want to increase our organization's trust, we need to do trustworthy things. Let us all walk that extra mile to honour our commitments - to both our external and internal customers.

One of the key elements that build trust amongst our customers is on-time delivery. We have achieved significant improvement in this area, and I am sure sustained OTD-performance will provide us an unassailable competitive advantage.

The theme we have chosen for our diamond jubilee year and beyond is 'The Future is Green'. Green is no longer a fad. It is worth repeating, and remembering in all our endeavours, that climate change is real, it impacts everybody and the time to act is now. Going forward, green processes, products and services will definitely differentiate the winners from the also-rans. We will soon be announcing a series of far-reaching changes to orient ourselves to carbon-neutrality and water-neutrality well within the timeline laid down by the L&T Group as well as our country.

The future is exciting; let us work together as one team to realise our shared dreams. All the best.

Regards,

**S** Kalyanaraman

S. Kalyee Leve





#### Vision and Mission

A Vision provides direction, it sets a course toward the future and tells the employees what the company believes in, how to behave and what kinds of decisions to make. A Mission describes what the employees need to do to achieve the Vision.

TRUST links our Vision and Mission. Let us internalise T.R.U.S.T., build trust and achieve our goals.



- Time-bound Execution
- Reliable Products, Services & Processes
- **You**
- Stakeholder Value Enhancement
- Triple Bottom Line Focus

# L&T Valves at ADIPEC 2021



S Kalyanaraman with (left to right), Nitin Sarode, Praveen Kumar Krishnasamy, Sandesh Patkar, SP Rajanish, Priya Pavithran and Saravanan M

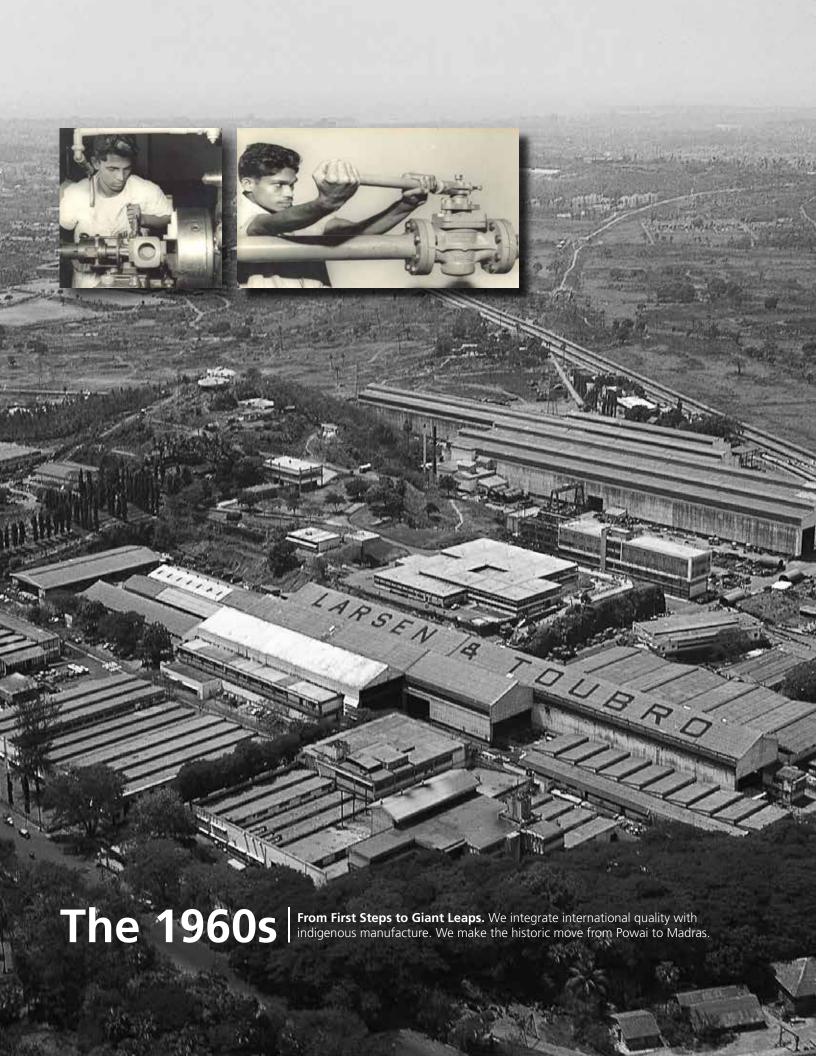


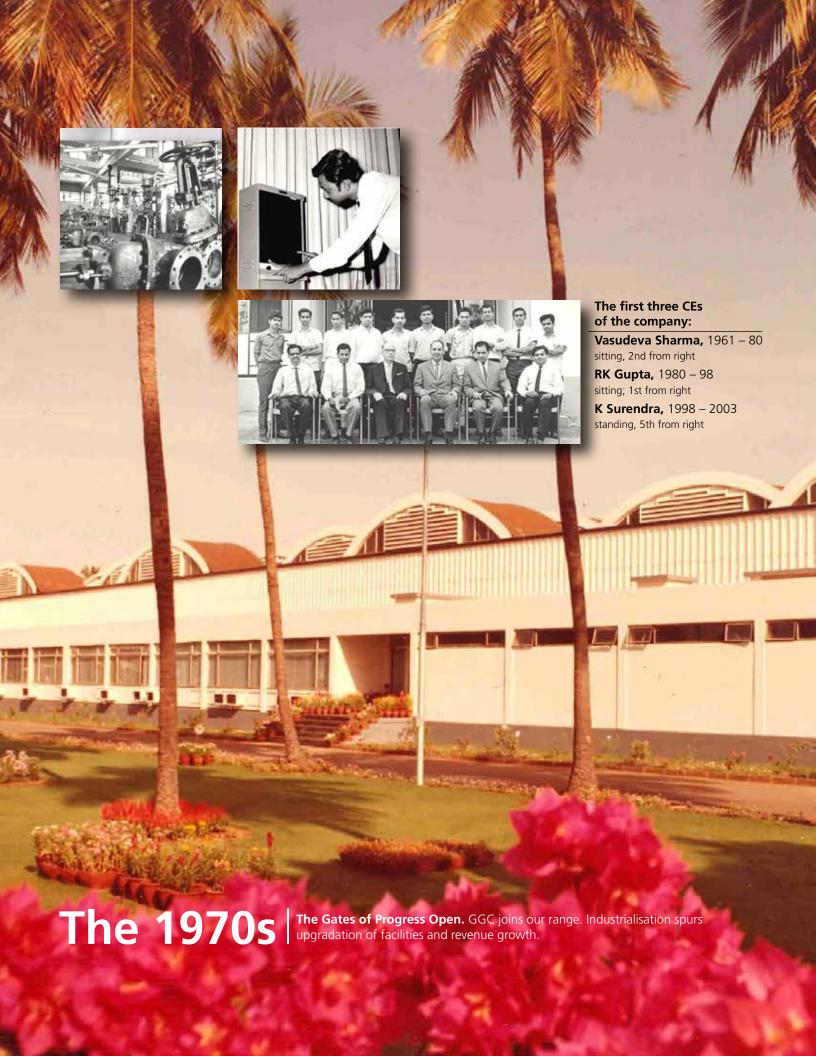
# L&T Valves 60 Sparkling Years

On 23 November 2021, L&T Valves Limited commemorated the 60<sup>th</sup> anniversary of its incorporation. Originally incorporated as Audco India Limited (AIL), the company was a JV of Larsen & Toubro and Serck Audco, UK. In 2013, AIL was restructured and integrated with the valve manufacturing and marketing operations of L&T to create L&T Valves Limited.

The company that started with a single product, over time, added a variety of products and solutions leveraging technology from global leaders as well as innovations from the company's award-winning design & development team.

Today, L&T Valves is a leader in flow-control solutions - with manufacturing facilities in USA, Saudi Arabia and India, and a marketing network that spans the globe. The products are approved and accepted by the most discerning customer in the world and the supply-base exceeds 20 million.







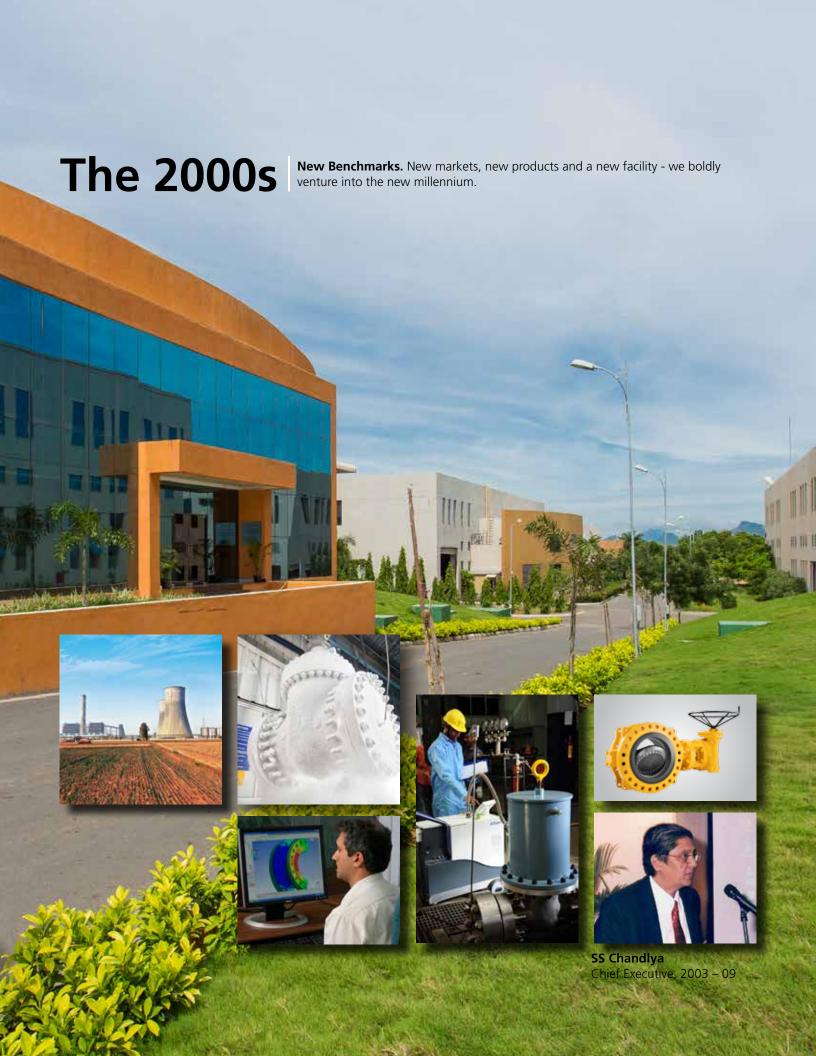
# The 1990s

**Our Horizons Widen.** International certifications, a modern facility, high-end products - we make a mark in the global arena.

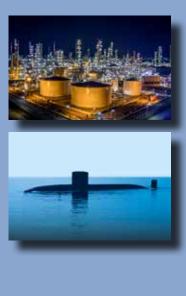








The 2010s Closer to the Customer. Innovation and technology help us build enduring relationships with key customers.







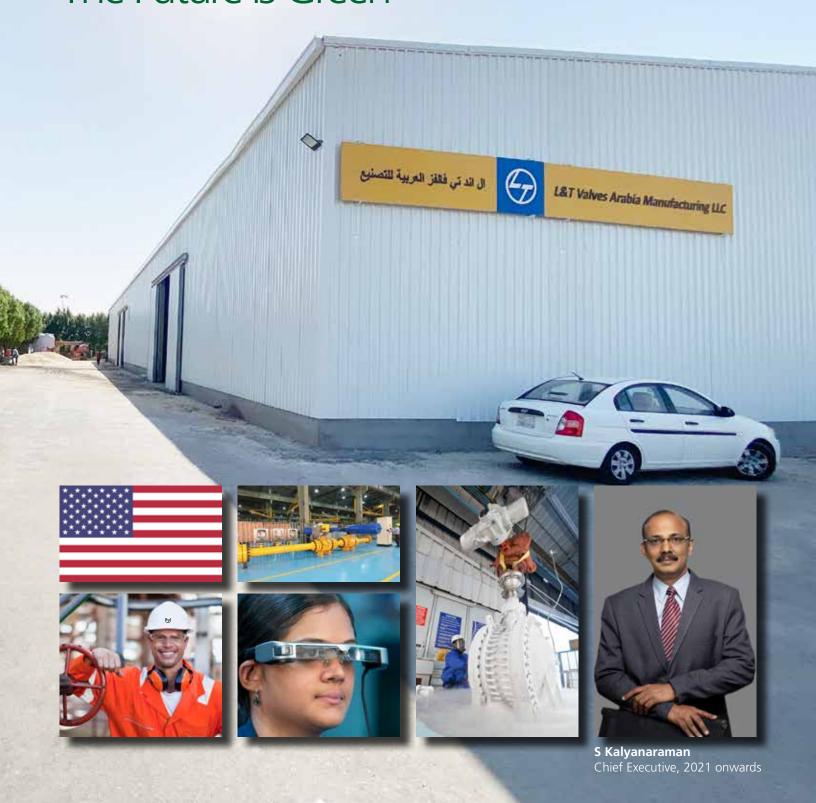




**NV Venkatasubramanian** Chief Executive, 2009 – 18



# 2020 and beyond... The Future is Green



# The time to act is **NOW**

A United Nations General Assembly meeting is interrupted by an unusual visitor: Frankie the dinosaur. He tells the diplomats and dignitaries, "It's time humans stopped making excuses and started making changes". He warns that humankind is headed towards a climate disaster, as governments continue to spend billions of dollars subsidising the use of fossil fuels. Frankie goes on to add about how we may spend that money productively for the greater good rather than hastening the extinction of humankind. He concludes: "At least we had an asteroid. What's your excuse?"

The video, 'Frankie the Dinosaur has a Message for Humanity', was part of the '#DontChooseExtinction' campaign launched by the United Nations Development Programme (UNDP) in Brussels on October 28, 2021. Fittingly, the campaign was launched at the Museum of Natural Sciences, which hosts the largest dinosaur gallery in Europe. Actor Jack Black has lent his voice to the dinosaur in English, and the video has been made in several other languages.

Watch the video: Click <a href="https://tinyurl.com/frankiedino">https://tinyurl.com/frankiedino</a> or scan QR code



The UNDP released the video to stress the fact that the world spends an astounding US \$423 billion each year to subsidise fossil fuels. The money spent could cover the cost of COVID-19 vaccinations for every person in the world, or pay for three times the annual amount needed to eradicate global extreme poverty. So, is too late to turn the clock back?



#### **Enter the Anthropocene Age**

We are already seeing the effects of climate change – and the impact it has on the environment and humanity.

Research by the Intergovernmental Panel on Climate Change or IPCC (a United Nations body that assesses the science related to climate change) shows that global average surface temperatures have increased by 0.85°C between 1880 and 2012. Some regions have already seen over 1.5°C of warming in at least one season. This rise in temperature has caused massive changes to natural systems, including "increases in droughts, floods, and some other types of extreme weather; sea level rise; and biodiversity loss – these changes are causing unprecedented risks to vulnerable persons and populations."

Environmental changes can cause huge upheavals in ways we may not have anticipated. Apart from losing important ecosystems, changes in weather will translate to a decline in food security. All of this would lead to greater economic imbalance, rise in migration from affected regions – and, in turn, uneven distribution of social and economic resources among countries.

Make no mistake, this is entirely our doing.

According to the IPCC, "...Human influence has become a principal agent of change on the planet, shifting the world out of the relatively stable Holocene period into a new geological era, often termed the Anthropocene." (The National Geographic Society describes the Anthropocene period as "an unofficial unit of geologic time, used to describe the most recent period in Earth's history when human activity started to have a significant impact on the planet's climate and ecosystems.")



### Making Sustainability a Sustainable Practice

The good news is, not everyone has been waiting for the eleventh hour to make a change.

Japan was the first country in Asia to establish a Green Procurement (GP) policy, beginning with the institution of the 'Basic Environment Act' in November 1993 to promote the use of goods and services that help reduce environmental impacts. In 1995, the Government of Japan adopted the first 'Action Plan for Greening of Government Operations', which included Green Public Procurement (GPP) commitments and reporting requirements. In January 2001, the 'Act on Promotion of Procurement of Eco-Friendly Goods and Services' came into being.

The effects of these public policies have been notable – and encouraging in their own right.

Take, for instance, the Japanese

government's procurement of ballpoint pens for official use. The GPP evaluation criteria included the mandate that more than 40% (by weight) of the total plastic used in each pen must be made of recycled plastic (if the main material used is plastic; if the main material is wood or paper, it should follow the respective criteria). Furthermore, it was imperative that the ink cartridges should be replaceable.

The total number of ballpoint pens purchased was 2,205,000, of which 2,189,000 (99.4%) met GPP criteria. As per data collected in 2013, a reduction in CO2 of 16.8 tonnes was achieved through the switch to green ballpoint pens, and there was a 6.1 tonnes reduction in plastic consumption compared to 2000. More importantly, the ballpoint pen market showed a rapid increase in the percentage of 'green' pens from 13.0% in 2000 to 33.8% in 2013.

# The Silently Sustainable Movement

- \* A factory in Asia that uses only a single litre of water to make a pair of jeans 346 litres less than what Levi-Strauss used.
- \* A car manufacturer who reduced the energy it took to make its cars by 75%.
- \* An organic farm that does not use any pesticides or artificial fertilisers, and uses water efficiently.

What is common to all of them? They keep their sustainable practices a well-guarded secret. No one in the general public knows their names.

Professor Steve Evans, director of research in industrial sustainability at Cambridge University's Institute for Manufacturing, has studied such companies who are 'secretly sustainable'. He believes that the companies' hesitation to make a PR splash about their environmentally friendly production methods may be due to public perception that there must be some kind of downside to their sustainable practices.

'Going green' might mean a hidden reduction in product quality, increase in the price of manufacturing, or both, as consumers seem to believe that products cannot become more sustainable without becoming more expensive.

Moreover, many companies fear that talking about the their area of innovation might attract unwanted attention to parts of the operation that are less sustainable – and lead to possible accusations of 'green-washing'.

In other words, there are several companies that are doing their part to tread gently on the planet but are just not talking about it. Their silence means that knowledge about environmentally helpful processes may be out of reach for corporations that are actively seeking to do better.

In Thailand, in 2004, Siam Cement Group made a firm commitment to purchase from suppliers that were environmentally friendly. It was the first Thai company to publish its own 'Guidelines for Green Procurement', which include green purchasing criteria for products and services. They also established a Green Procurement Committee, and have systems in place to assist suppliers with green capacity development through their 'Greening the Supply Chain' programme.

Flexographic ink is a key material input use by SCG Packaging (a division of SCG). The company identified the purchase of ink used in water-based flexographic printing as a potential target for green procurement, since the chemical used in conventional ink has environmental impacts. Ink suppliers were screened to ensure they met the requirements for green flexo ink production. Six out of the seven flexo printing ink companies passed the tests and were added to the list of eligible suppliers.

The process did not end there. SCG worked with the unsuccessful supplier and provided the latter with consulting and training to improve their practices, through their innovative supplier engagement program. After completing the programme, the supplier had an opportunity to undergo a re-audit to qualify as a green supplier. The benefits were plenty: Procuring of more environmentally and health friendly inputs, improved supplier practices, improved health and safety practices, reduced indoor air pollution, improved chemical storage and waste management, water conservation measures, and savings in colour content used in their inks.

Adoption of sustainable means of production, especially by energy intensive industries (such as cement, iron



and steel and chemicals, which account for about 20% of global  $CO_2$  emissions) is the first step towards tackling the issue of climate change.

The challenge lies in the fact that emissions from these industries are extremely difficult to supress. This is because, in addition to emissions associated with energy use, a significant portion of industrial emissions come from the process itself. Furthermore, peripheral activities (such as packaging) come with their baggage of resource usage and production cycles.

To offset the carbon footprint of these processes, the shift towards cleaner, less wasteful means of production and the use of zero-carbon energy sources seems to be the best alternative. This is the rationale behind the move towards 'Green Industry', a term coined by the UNIDO. Essentially, it encompasses the effort made by economies to put in place a more "sustainable pathway of growth, by undertaking green public investments and implementing public policy initiatives that encourage environmentally responsible private investments."

### Risk of Cop-ping Out on Climate Change?

The best of sustainable practices require a firm commitment on all levels for all individual efforts to become a snowball of positive change.

As the world looks to move itself out of the economic slump created by the COVID-19 pandemic in 2020 and 2021, the International Energy Agency warns that industries are going to move up demand for coal to all-time high in 2022. According to a report by the agency, "coal power fell by 4% in 2020 as the pandemic caused a global economic slowdown" but the "amount of electricity generated from coal power plants has soared by 9% this year after

a surge in fossil fuel demand to fuel the recovery from Covid lockdowns."

Energy demands continue to drive the continued use of fossil fuels. It is also a key point of discord over a 'timeline' for discontinuing the use of fossil fuels – as was seen at the 26th United Nations Climate Change Conference or COP26.

At the COP26 talks, there was considerable alarm over the projection that global heating would soar to 2.4°C. Earlier, the hope was that commitment to long-term promises to cut down greenhouse gases emissions would help to restrain rise in temperature to a maximum of 1.8°C (a number still above the decided on target of 1.5°C as per the Paris Accord of 1992). However, the talks did not end smoothly, due to a strong last-minute intervention by India to alter the language of the pact from "phasing out" to "phasing down" coal, in line with the restraints faced by developing countries.

#### **Renewables: The Green Lining**

Going back to the question, is it too late?

In as much energy demands show an upward trend, it is encouraging to note that renewable sources of energy will continue to gain greater ground in the coming years, with solar PV and wind being expected to contribute two-thirds of renewables' growth. China is expected to account for almost half the global increase in renewable electricity generation – followed by the United States, the European Union and India.

The answer lies in a careful balance. While it would be near impossible to eradicate the use of fossil fuels, every effort made towards greater integration of renewable, non-carbon energy sources is a step in the right direction – one that Frankie would approve of.

### The 21 Best Environmental Films

- 1. The Human Element (2019)
- 2. Before the Flood (2016)
- 3. Eyes of the Orangutan (2021)
- 4. 2040 (2019)
- 5. An Inconvenient Truth (2006)
- 6. RiverBlue (2017)
- 7. Artifishal (2019)
- 8. Chasing Coral (2017)
- 9. David Attenborough: A Life on Our Planet (2020)
- 10. My Octopus Teacher (2020)
- 11. Racing Extinction (2015)
- 12. The Ivory Game (2016)
- 13 Cowspiracy: The Sustainability Secret (2014)
- 14. Virunga (2014)
- 15. No Impact Man (2009)
- 16. Food Inc. (2008)
- 17. Catching the Sun (2015)
- 18. Just Eat it! A Food Waste Story (2019)
- 19. Extinction: The Facts (2020)
- 20. The Day After Tomorrow (2004)
- 21. Seaspiracy (2021)

https://earth.org/best-environmental-films/

# **Green**Manufacture

We utilise sustainable processes keeping in mind the health and wellbeing of our employees, partners, customers and the communities that surround our factories. Here's a quick guide...

At the COP26 conference held at Glasgow, India announced a five-pronged strategy to address the impact of climate change:

- 1 India will move its non-fossil energy capacity to 500 GW by 2030
- 2 India will meet 50% of its energy requirements via renewable energy sources by 2030
- 3 India will reduce the total projected carbon emissions by one billion tonnes starting now and until 2030
- 4 By 2030, India will reduce the carbon intensity of its economy by more than 45%
- 5 By the year 2070, India will achieve the target of Net Zero

These targets can only be achieved through collective, cooperative action, with industries playing a large role. Let us examine how we can lead the way in green manufacturing and help our nation meet its ambitious sustainability targets.

#### **Energy Management**

We depend on grid power for our regular manufacturing operations and on DG sets for emergencies. Recently, we installed a small capacity solar panel as a pilot project – its economic and environmental benefits have convinced us to pursue renewable and non-conventional opportunities on priority.

Energy conservation is an integral part of energy management. We carry out energy audits to understand the energy consumption pattern of individual equipment and processes and develop conservation plans.

- We have switched to energy-saving LED lamps across all campuses
- In our offices, we use timers and motion sensors to control lighting, as well as IoT-based operating mechanisms for air conditioners
- On the shopfloors, we use light pipes and skylights to maximise daylight utilisation
- We also optimise motor capacity, monitor and manage idle running and use limit switch-based machine cut off systems.

#### **Waste Management**

Manufacturing consumes a lot of resources. We are committed to 3R (reduce, reuse and recycle) and follow relevant waste management guidelines issued by the state government and local bodies when it comes to the management of solid waste, hazardous waste, non-hazardous waste, e-waste, battery waste, bio-medical waste and metal waste the result from our processes.

- The hazardous wastes we handle include paint sludge, oil-choked cotton, used oil, oil and paint tins and chemical sludge from water treatment plants. We dispose of paint sludge waste by incineration. Chemical sludge waste is disposed in landfills post treatment. We incinerate oil-choked cotton waste and use authorised recyclers to manage used oil and oil/ paint tins.
- We dispose off e-waste through authorised agents. Used batteries are returned to manufacturers through authorised collection partners.
- Part of green waste and food waste is used as compost and manure for the gardens.
- Single-use plastics as well as plastics with thickness less than 50 microns (used for packing) are restricted from being used at our plants
- Wooden packing crates received at our plants are reused to fabricate articles for internal use. Our plan is to ensure that all packing material sent with our products are reusable and recyclable.

#### Water Management

Our plants are zero-discharge units, which means we do not let out even a single litre of water without treating it.

- We treat wastewater from processes (effluent) at our ETP and RO plants and reuse it as DM water for valve testing
- The treated water from the STP is used for garden maintenance
- We have installed water efficient taps and nozzles and implemented techniques for flow reduction
- The RWH system helps us recharge ground water

#### **Air Pollution Management**

At L&T Valves we proactively limit the emission of Green House Gases (GHG). We constantly monitor the campus ambient air quality and ensure that it meets the National Ambient Air Quality Standards.

- To reduce emissions, we are switching from diesel/ LPG power to electrical power, wherever feasible
- The emissions from the DG sets are maintained well within the set limits
- We employ engineering controls such as filters system, wet and dry scrubbers, jet bag filters, dust bag filters and fume extractors to control the pollution caused by manufacturing processes both indoors and outdoors. These control systems are periodically audited by competent personnel to ensure their performance suitable action is undertaken as needed.
- We plan to standardise on environment friendly refrigerants in our air conditioner units
- We use fossil fuel vehicles for internal transportation this is an area that needs attention

Parameters	SO <sub>2</sub>	No <sub>x</sub>	PM10	PM2.5	O <sub>3</sub>	Pb	C <sub>6</sub> H <sub>6</sub>	NH <sub>3</sub>	CO	BaP	As	Ni
Unit	μg/m³								mg/m³		ng/m³	
NAAQ Standard Value	80	80	100	60	180	1	5	400	4	1	6	20
KPM (Between C and D Buildings)	7.4	17.2	57.6	18.3	<20	<0.5	<0.1	29.7	<1.15	<0.1	<0.5	<0.5

#### **Green Cover Management**

Our green cover, which occupies around 30% of the land area, improves our ambient air quality. At our Kancheepuram plant, we recently planted an urban forest using the techniques pioneered by Japanese botanist Akira Miyawaki. The technique promises 10 times faster and 30 times denser growth and a maintenance-free forest within three years.



#### Logistics

The carbon footprint of inbound and outbound logistics is huge. Efforts are underway to use digital techniques to optimise logistics time, effort and cost. Green logistics will go a long way in improving our sustainability goals.

#### **Noise Pollution**

There is enhanced awareness and appreciation of the impact of workplace noise on efficiency and mental health.

- We control excessive noise by using acoustic enclosures for DG sets and silencers for pneumatic pumps.
- We use hydraulic tools instead of pneumatic tools and screw compressors in place of conventional reciprocate compressors.

Our green goals are big, and we are only just picking up speed. However, we are confident that we will work together as one team to achieve our green goals.



Pughazhendi A Plant Engineering Dept.

# Fugitive Emission Valves Meeting the Challenges



Sugumar S
Product Development and R&D

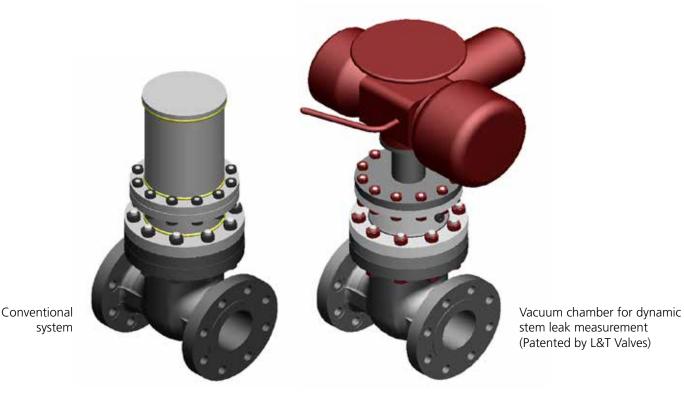
Fugitive Emission (FE) is defined as the unintentional and undesirable emission, leakage, or discharge of gases or vapours from pressure-containing equipment or facilities, and from components inside an industrial plant such as valves, piping flanges, pumps, storage tanks, compressors, etc.

Fugitive emissions emerged as an issue in the '70s, when the world began to require significantly more energy. It is noteworthy that the amount of fugitive emission in 2021 is almost seven times more than it was 50 years ago. Due to growing concerns about health, safety and environment, fugitive emission has become a key concern for end-users, builders and operators of oil and gas, refining and petrochemical plants as well as the regulators across the globe.

NASA defines greenhouse effect as "a process that occurs when gases in the earth's atmosphere trap the sun's heat". Fugitive emission compounds such as volatile organic compounds (VOCs) and hazardous air pollutants (HAPs) contribute to greenhouse effect and to global warming.

From the '70s, government regulations such Clean Air Act in the US and TA Luft in Germany as well as pressure from health, safety and environment (HSE) groups have forced end-users in the oil and gas industry to consciously focus on reducing fugitive emissions.

According to an industry study, valves account for approximately 60% of the fugitive emissions from refineries and chemical plants. We at L&T Valves, understood the upcoming challenge and focused our R&D efforts on developing a range of FE valves.



The major industry/ customer standards for fugitive emissions valves are:

- API 622/ API 624/ API 641
- ISO 15848, Part 1 & 2
- Shell MESC SPE 77/312
- EPA 21
- TA LUFT

L&T Valves adopted the most stringent standards and partnered with the leading experts, test labs and component manufacturers across the globe. Our objective was to develop a portfolio that would be approved and accepted by the global oil majors.

Here I would like to touch upon a key challenge that we faced and how we overcame the issue.

#### Leak Measurement

The various FE standards call for different types of testing methods for prototype and production valves. The types of test methods used for leak detection include Flushing, Sniffing, Enclosure and Vacuum, with progressively increasing degrees of accuracy.

The vacuum method specified in ISO 15848 is based on the principle of leak collection without any loss to the atmosphere. The method requires a hermetically sealed chamber around the stem seal area at the time of leak measurement whilst the valve is subjected to pressure. This chamber is connected to a mass spectrometer that has a provision of creating vacuum with its pump and simultaneously measuring leakage values, if any, from the stem packing. The disadvantage of the system is that the chamber has to be removed during cycling and reassembled for leak measurement. Further, measurement of dynamic stem leak is not possible.

To address this issue, L&T Valves developed a system that allows cycling and leak measurement in one setting without dismantling the chamber. The method allowed us to

simulate the actual valve operating conditions and develop a more versatile solution. In addition to dynamic stem leak measurement the arrangement allowed high temperature FE tests also. The system reduced manual effort and speeded up the qualification process integral to large supplies. L&T Valves obtained a patent for the test arrangement is 2010.

L&T Valves developed a comprehensive range and was amongst the first manufacturers to get the valves qualified at key third-party labs in the USA.

Our current range extends up to 64" and ASME classes up to 2500.

I considered it my privileged to be a part of the FE valve development team, and am proud of the positive contribution I make to the environment as well as the health of people across the world.



Quality is an important aspect of everything we do and to draw attention to the significance of quality practices, CQI (Chartered Quality Institute, London) has designated November as World Quality Month. The main objectives were to promote the awareness of quality as well as to encourage growth and prosperity for individuals and organization through implementation of strong quality standards.



Sivaram Anbalagan Quality

This year, the theme for L&T Valves was 'Synergize for a Sustainable Future'. The emphasis was on the importance of quality in sustainability and its impact on the environment, society and governance. The quality month celebrations were inaugurated by Basavarajappa D, Head - Operations who also launched i-QMS, the Interactive Quality Management System. Product and functional heads shared their insights on quality with examples on synergy and sustainability during the inaugural function.

#### **Knowledge Enhancement**

A series of knowledge enhancement sessions were conducted as part of the celebrations. A Guru Speak session on Quality 4.0 by Vikas Risbud, Head - Manufacturing Technology and Digitalization, L&T Heavy Engineering, Hazira as well as the 'Foundry Talk by Foundry Experts' session by Mr. S. Ramalingam, Executive Director, Madura Steel industries, Dindigul and G Ezhil, Managing Director, Ultimate Alloys, Coimbatore received excellent response.



We also arranged a visit to L&T Rubber Processing Machinery at Kancheepuram to understand the best quality practices deployed in other L&T facilities.

#### **Competitions**

The various competitions organized during the Quality Month enabled connections and engagement amongst employees of various departments and the overall response we overwhelming.

- Best Welder
- Quiz
- Quality Poster



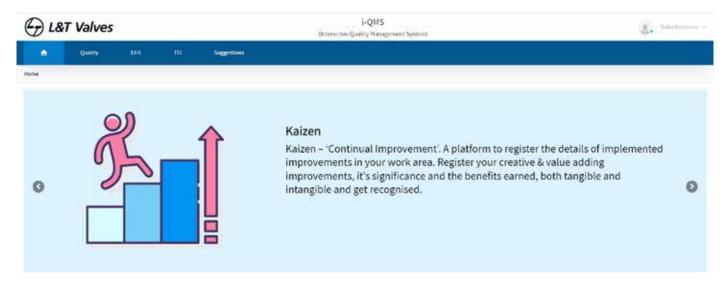
- Quality Slogan (English & Tamil)
- Best Product Group
- Best Supplier
- Certified Quality Specialist

The month-long event was a huge success and sensitised more than 500 touchpoints across the organisation on quality concepts and culture.



# i-QMS

# interactive Quality Management System





Aravind Siddharth S Quality

The theme of this year's quality month was 'synergize for a sustainable future' and it is my pleasure to showcase a synergized efforts put forth by Digitalization, IT and Quality teams.

Based on the guidance and direction of our CE, we have developed a portal for paperless audits, EHS observations and Total Employee Involvement (Kizuki and Kaizen) called the Interactive Quality Management System or i-QMS. https://igms.lntvalves.com/

i-QMS is designed to eliminate paperwork and significantly reduce time in report preparation, follow ups and scheduling which are currently done manually. The portal is made accessible to everyone in the organization to enable cross pollination of ideas between departments and locations, and to build a repository of knowledge and lessons learnt.

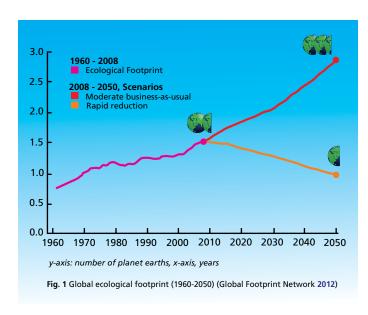
The support and efforts from our digitalization and IT teams which resulted in 'concept to webpage' within three months was awe-inspiring. Login, register and join the i-QMS journey.

# Aftermarket

## A Catalyst of Sustainability



V Sriram Aftermarket



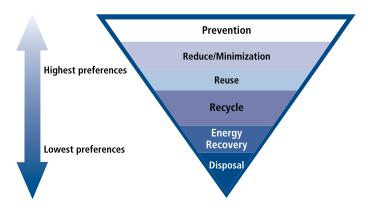
Population growth and industrialization have caused significant damage to the environment as well as the depletion of natural resources. The global ecological footprint continues to increase every year and the average Earth bio-capacity needed in 2012 is estimated at 21 gha (Global Hectares) while sustainable footprint is only 15 gha. In other words, each individual in the earth requires an equivalent of 1.5 planet Earth to exist today. This means that we have not only utilized our portion of the Earth's resources but also have taken the resources meant to be kept for the next generation.



Unless we develop methods to moderate the growth in the business of reckless consumption and employ techniques for rapid reduction, we would be needing three earths in 2050. This alarming situation indicates the unsustainable practice of consumption by the Earth's inhabitants.

In waste management phraseology, the 3R (Reduce, Reuse and Recycle) was adopted by waste managers worldwide as the most appropriate strategy towards sustainable development.

Future waste management hierarchy will incorporate prevention before 3R and energy recovery, prior to the disposal option. It can be depicted as an inverted pyramid with the smaller tip pointing downwards. Thus, the highest desirability within a waste management hierarchy is waste prevention.



It can be achieved by not generating unwanted products in product manufacturing or service provision, whereby the generation of waste can be "prevented".

The aim is to get the most practical benefits from products and to generate the minimum amount of waste. A study reveals that 23% of the parts in the manufacturing menu become obsolete every year at the installed plants.

Aftermarket refers to the segment of the business which caters to spare parts and after-sales services - conducting repairs; installing upgrades; reconditioning equipment; carrying out inspections and day-to-day maintenance; offering technical support, consulting.

The various efforts made by the aftermarket teams are focused largely in reducing the waste and improve the three "R's, thus contributing to the sustainability of not only the business and products but also the environment.

#### **Myths and Misconceptions**

Most industrial manufacturers want more aftermarket sales. Many end customers prefer buying aftermarket parts from the original equipment manufacturer (OEM) or approved original equipment suppliers.

This feedback has been consistent across industrial end markets, indicating manufacturers have a significant opportunity in the aftermarket. However, many manufacturers are not able to capture their fair share of the aftermarket segment.

This seems counterintuitive given that both OEMs and end customers are motivated to interact more actively on aftermarket sales. There are lot of myths and misconceptions which is presenting a big gap in this interaction.

**Myth:** Local component manufacturers and small time service providers have become so price competitive that OEMs lose most of the aftermarket the moment the initial warranty period ends.

**Reality:** The truth reveals that the presence of these small-scale service providers should not be treated as a competition but can be considered as a facility available enabling the reach to the customers.

**Strategy:** The situation has to be addressed by having an ecosystem view to work cooperatively and collaboratively with all the players, including customers and competitors, to protect and grow business through enhanced customer service and loyalty.

Myth: Some Manufacturers tend to think that they do not have the resources to devote to aftermarket services. Their field teams are so busy selling equipment—admittedly larger transactions—that they cannot be pulled away to focus on the services business.

**Reality:** The reality in the workplace reveals that a small focus team can be assembled with the technical experience and with an attitude to "Stay and Face" and this team can propel the chances of winning to a higher orbit.

**Strategy:** Identify talents – internally or laterally and have an extensive programme for the training needs. Developing a strong aftermarket services function requires focus on a culture of service and innovation within the team

Myth: Some manufacturers tend to believe that success in aftermarket services requires a strategic reboot, which means that companies need to create a dedicated services organization.

**Reality:** They fail to understand that the boost given by the aftermarket efforts would be extending the life of the product without the need for a separate strategy.

**Strategy:** Manufacturers should ensure that all their processes are proactive, agile, and adapt to customer needs by aligning the resolution speed in line with customer expectations.

Myth: When exploring aftermarket value pools, industrial OEMs believe that prioritizing services enabled by digital innovation and the Internet of Things (IOT) would be the immediate requirement to start the Aftermarket business.

**Reality:** According to a research study by Mckinsey on the aftermarket, the evolution in the Aftermarket Services starts with the basic work of data mining, customer segmentation on the propensity to buy and strategies for dynamic pricing.

**Strategy:** The core aftermarket services — the provision of parts, repair, and

maintenance — are very much critical for the immediate success of the Aftermarket business. At the same time, manufacturers should make strategic investments in digital technologies to expand service offerings and develop new capabilities for the future.

Myth: Aftermarket business can blindly employ enterprise-resource-planning thinking, processes, and software solutions to tackle the complexity of the customer demands.

**Reality:** Companies neglect after-sales services supply chains because they're tougher to manage than manufacturing supply chains and consecutively face mismatches between supply and demand, deliver poor service to customers, and leave profits behind on the table. Services supply chains and manufacturing supply chains both consist of entities and assets linked by the flow of materials, information, and money, but they differ in many ways.

**Strategy:** Companies should visualize a distinctive after-sales services supply chain that delivers service products to customers through a network of resources.

Today more and more companies have understood the nature of the myths and have customized their business processes to address the opportunity.

#### The Aftermarket Evolution

Traditionally, manufacturers have focused on selling equipment, while aftermarket services remained as an ancillary business, and so the overall business models were mostly transactional in nature. However, over the past few years, due to the changing market conditions, many manufacturers have been moving towards a relationship-based business model, selling outcomes.

Every manufacturer begins its aftermarket services transformation journey from a different starting point and, therefore, has a different path. There cannot be a single road map for transforming aftermarket services.

Unlike manufacturing, businesses can't produce services in advance of demand. They can deliver services only when an unpredictable event, such as a product failure, triggers a need. It isn't surprising, though, that companies find it tough to compete in the aftermarket. Across industries, delivering after-sales services is more complex than manufacturing products.

Competition is likely to be more intense in the aftermarket space and the differentiating factor for manufacturing customers could depend on who can bring the most value to the customer.

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# Green Hero

Praneshh, son of Haribabu S (Pre-Sales, Chennai) and Rekha, is a multitalented val-kid. The class-5 student loves drawing and painting, vlogging - and setting world records. Yes! Last year, Praneshh and his robotics group set a world record planting a micro forest using robots, that too to raise awareness on global warning.

Go Praneshh; you are the hero the world needs right now.











https://tinyurl.com/2p8rjdsc

Hydrogen means creator (-gen) of water Hydrogen means creator (-gen) of water (hydro-); its combustion releases only water It is the universe's most abundant and the earth's rarest element. Let's experience the voyage of hydrogen from the past to the (hydro-); its combustion releases only water. earth's rarest element. Let's experience the voyage of hydrogen from the past to the future to understand all the hype about H<sub>2</sub>.

eginning our journey with air pollution, it kills an estimated seven million people worldwide every year (whereas covid is responsible for 5.3 million deaths in two years, and the whole world is behind it. So how should we respond to air pollution?). WHO data shows that 99% of the global population breathe air that exceeds WHO guideline limits containing high levels of pollutants. "Most air pollution comes from energy use and production," says John Walke, director of the Clean Air Project, part of the Climate and Clean Energy program at NRDC. If this continues, the air will become so poisonous that we will be buying oxygen cylinders like water cans. Considering all of this, one of the initiations was the Paris agreement, signed by 193 countries (wherein "Unity is Strength") to respond to the threat of climate change. As a part, COP26, the 26th United Nations Climate Change Conference, was held at the SEC Centre in Glasgow, Scotland, United Kingdom, from 31 October to 13 November 2021. This added to the hype for hydrogen by increasing the focus on cleaner and lowcarbon energy systems.

Hydrogen market is not a new thing. The global hydrogen generation market size was estimated at USD 120.77 billion in 2020, which accounted for approximately 90MT of hydrogen demand. So, again what was this new HYPE of hydrogen? We need to look at how this hydrogen is produced to know this. In 2020, 95% of the

hydrogen was produced through fossil fuels (Steam Methane Reforming and fossil fuel gasification), responsible for approximately 830 million tons of CO<sub>2</sub> emissions in that year. This hydrogen produced is named Grey Hydrogen. If this CO<sub>2</sub> is captured and utilized effectively with some Carbon Capture, Usage and Storage (CCUS) techniques, the hydrogen we get here is Blue Hydrogen or low-carbon Hydrogen. Water electrolysis is one of the hydrogen production methods, for which feedstock is just water and electricity. If this electricity is powered with renewable energy and zero carbon emissions, this hydrogen is named Green Hydrogen. Other emerging technologies are Methane Pyrolysis (Turquoise Hydrogen). Photolysis (using sunlight directly to split water) and many more. Having said about production methods and Colors of Hydrogen, we can also say that, in 2020, less than 1% of green hydrogen was produced.

So, the new hype is about Green Hydrogen. Continuing with this hype, most countries initiated many green hydrogen production projects aiming at approximately 40% of Global hydrogen demand in 2030.

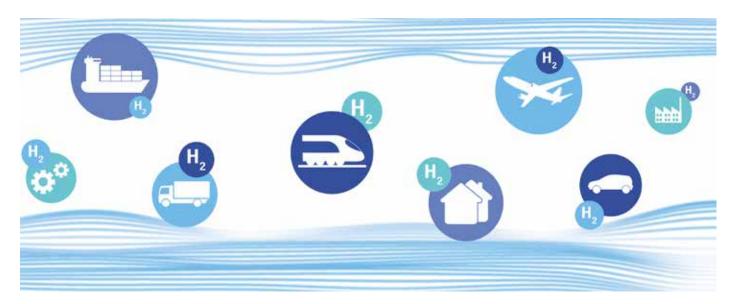
Having said this about the greener ways of producing hydrogen, now we will see its applications for a greener future which also adds to the hype. Major applications of Hydrogen were in refineries, ammonia and methanol production, the steel industry and



Rashmi Reddy Strategy

many other minor processes. The future demand of the greener world adds hydrogen as fuel and as an energy storage component. But the question is, can it be achieved considering all the criticalities and historical incidents of hydrogen? The answer to this is Yes!!!

Before diving into the future, let's have a look at history. Hindenburg disaster is the most spoken-about accident whenever there is a topic of hydrogen as fuel. It is a misconception by most people that the accident was because of the hydrogen fuel in it. But Hydrogen was innocent. This is best explained by a retired NASA scientist, Addison Bain, with his Incendiary Paint Theory (IPT). This theory says that the Hindenburg disaster was caused by the electrical ignition of lacquer-and metal-based paints used on the outer hull of the airship. Along with this, the fact here was that although hydrogen fuel stopped burning, the diesel fuel still burned for several hours. And many experiments were done after



that, proving that hydrogen fuel is less disastrous than other conventional fuels. One interesting article titled "So just how dangerous is hydrogen fuel?" by Jacob Leachman clears this misconceptions about hydrogen with many illustrated examples.

This incident changed people's perspective towards hydrogen fuel, and it was not the preferred choice. But today, fuel combustion in transportation is solely responsible for 25% of the global CO<sub>2</sub> emissions. So, hydrogen can be considered one of the best fuels for zero carbon emissions (only water). For a greener future, hydrogen as a fuel also has a higher energy density than gasoline and faster refueling time than electric vehicles. As energy storage, hydrogen is considered one of the best ways to store energy for long durations without loss. For a greener future, electricity is generated through renewable energies like wind or solar power. But these renewables are available only in some months of a year and some hours of a day. So, the electricity is produced whenever renewable energy is available, with which hydrogen is produced with electrolysis and is stored. This stored hydrogen can then be converted back

to electricity that can be used any time of the day and in other applications. With the green applications of hydrogen and considering the world's focus on Net Zero Emissions (NZE), the demand for hydrogen will increase by more than 100%. To meet these hydrogen demands more green ways to produce it are required, as discussed at the start.

Now everything is fine; we have unlimited solar and wind energy. Using that, we get electricity. Part of this electricity is directly consumed, and the other part is used for hydrogen production. And this hydrogen is either stored or used as fuel or in refineries, chemical industry, other industries or again converted back to electricity. So, considering the whole scenario, where are we as a valve manufacturer coming into the picture or do we even have a role?

Yes. We do have a role for all the discussed things to happen. Because wherever there is a flow, there will be a valve. And hydrogen in all these processes will be in either liquid or in gaseous form (as solid-state, achieved only below 14K (-259.2deg C) at 1 atm, is still a myth for commercial use). So, our valve must work against

all the critical properties of hydrogen (like colorless, odorless, smallest in weight and size, explosive, -254 deg C boiling point). Since hydrogen is the smallest and lightest of all the molecules available, it has a high probability of leaking through gaps and permeable through materials. And because of no color and odor, it can't be detected manually. So, there should be zero leakage from the valves, and the material should be suitable for hydrogen. Finally, it has the lowest boiling point besides helium, making hydrogen infrastructure challenging.

Overall, hydrogen, with its critical nature, is gaining importance these days; there are no specific standards related to valves for hydrogen service. So, there are many things to consider while manufacturing valves. Such as material compatibility and suitability tests for hydrogen, 100% radiography tests on castings, metal seats, large radius designs, elimination of sharp edges and abrupt angles, welding/ casting defects, etc.

To sum up, the future for Hydrogen valves also is green.



# Going Green The Digital Way



Ramesh Srinivasan Head – Commercial, IT & Digitalization

The Fourth industrial revolution has witnessed the emergence of cyber-physical interfacing systems, Internet of Things (IoT), big data analytics, cloud computing, cyber security, Augmented Reality (AR), Virtual Reality (VR), additive manufacturing and vertical and horizontal system integration and simulation. These technologies in the digital domain provide great potential not only to improve operational efficiencies but also to reduce emissions, minimise waste and protect the environment, thereby paving the way for a sustainable future.

30



IoT-ready smart valve with diagnostic and communication modules

#### **Paperless Office**

At L&T Valves, in line with the strategic roadmap to make our factories paperless, green initiatives such as Integrated Quality Management System (iQMS), Digital Pre-Dispatch Inspection (DPDI) system and CT-Connect (CTC) systems have been launched. The underlying processes of internal and external audits and documentation related to the supply chain have been digitally enabled, thereby rendering the processes paperless.

The reduction in the usage of paper on account of these initiatives is estimated to be 12 lakh pages per year.

Actions are on to create a Collaborative Eco-System (CES) that integrates multiple stakeholders - customers, supply chain partners and internal stakeholders of L&T Valves. This will enable seamless flow of information which coupled with process automation will make the processes faster, error-free and paperless.

**Technologies used:** IoT, Web Portal, Robotic Process Automation (RPA), Mobile Applications

#### Using IoT to Reduce Energy Usage

IoT sensors can be installed in critical machines to collect real-time data on energy consumption, and the historical trends can be analysed using Al algorithms to strategize energy usage. The system can also indicate outlier trends which could trigger predictive maintenance to avoid energy wastage. The data can also help identify areas where retrofit would improve efficiency.

**Technologies:** IoT, AI, Big Data

#### Digital Twins to Optimize New Product Development

Digital Twins is a technology where one can develop an accurate model of a physical and logical entity and deploy them in a controllable environment to study it's behaviour. For example, we can create a virtual valve prototype and operate it under defined operating conditions so as to evaluate its performance. Using a Digital Twin, we can simulate different valve operating scenarios and arrive at an optimal sustainable solution.

**Technologies:** Al, IoT, Blockchain, VR, Collaborative Platforms

#### **Ongoing Initiatives**

- Sustainable Digital Infrastructure: Utilising climate neutral and energy efficient data centres, computation devices, networking devices, etc. to reduce the carbon footprint.
- **Green Software:** Using software that can be developed and run with minimal impact on the environment. Code and architectural changes enhance application speed and operating efficiency of the system and reduce power consumption and carbon footbrint.
- Optimised Data Management Systems: Businesses require optimised data collection, analysis and secure storage practises to become sustainable. For optimum performance, L&T Valves has been working on big data analytics and integrated software systems.

Many companies across the world have implemented digital sustainability strategies, gaining wide traction in business forums. No doubt, Digital Sustainability is emerging as a significant pillar of business operations.

# A Blueprint for Success



S Kalyanaraman, Chief Executive and Director, L&T Valves delivered the convocation address on Graduation Day 2021 at the KPR Institute of Engineering and Technology, Coimbatore on 18 December 2021.

We present excerpts from the address.



his a special occasion; a time for celebration to mark the opening of a new chapter. A new door opens for you to the world of work and the responsibilities that come with it. I am sure everyone of us here wants to be successful in life. Are we ready for it? Are we planning for it? Are we prepared for it?

It is my honour to share a few thoughts on a topic which I believe people like you should be introduced to: The Steps to Success

#### **Be Ready**

Be proactive, in other words, be ahead of the curve. Be it in business or personal life, changes are something which will happen, which will affect you both personally and professionally. For example, how many of you know Nintendo? Most of you who play video games would know this company. But do you know they started off as a company which made playing cards. They were proactive and over a period of time they started to move into electronic toys and today they make gaming consoles. The organisation was proactive, and prepared to meet the exigencies and the demands of the future market.

You would have interacted with people who worry about a change after it has happened. They are being reactive. Being reactive doesn't help anyone, neither in business nor in personal life. A proactive one would be the one who understands over a period of time, and learns to prepare for the future. Be ready and be proactive!

#### Have a clear plan

There is a saying, "The world steps aside and paves way for a man who is clear about his destination". One of the most important aspects of life is to have the big picture in mind before we commence any project or activity. Many a times we begin the work with little



clarity or preparation and try to manage the way-forward as one moves along. This could be risky and also ineffective. Successful people not only plan the entire course of a project but also the aftereffects of the project after its implementation. This visualisation gives a purpose and meaning to the whole plan and provides to all the related parties clarity on the expectations.

#### **Prioritize**

This is choosing the most important task in your life and then completing it. Most of the time in life we are confused when we have lot of things to do. Here the need is to prioritize and choose what needs to be accomplished first.

Let me give you an example. You are asked to eat items which are kept on your plate. You have got muffins, cakes, rice, rotis, biscuits, wafers, and also a frog. Now, this is just the kind of work we have pending with us, which we have to complete in a day. Some are good, some are easy, some are interesting, and some are difficult/ boring. The trick here is to do the job which is the most difficult and not-sointeresting first – or Eat the Frog. As Mark Twain once said, "If it's your job to eat a frog, it's best to do it first thing in the morning. And if it's your job to eat two frogs, it's best to eat the biggest one first". to sum up, eat the frog or the frog will eat you, meaning you will end up procrastinating the whole day.

#### **Empathise**

Think Win-Win. We may have been used to doing things alone, but in a professional life or social life, you we are going to do many things as a team. Conflicts are going to be common considering the number of people at the table. It will be important to listen to others, take them into confidence, win their confidence and then you start working towards success as a team. And if it means that you have to compromise

some of your original thoughts, in the interest of the success of the project, in the interest of taking people along, in the interest of creating a win-win situation for everybody, please build this quality of empathising.

#### **Listen to Communicate**

I'm guessing you know what it's like to be in the middle of expressing yourself to someone, only to realize that this person is already planning a reply in their head instead of listening to you. Frustrating, right? And chances are, you've been on the other side of that situation too. When this happens, people stop confiding the truth to the supposed listener. If you want to be a better leader, salesperson, parent, spouse or friend, be a better listener. Let's avoid the habit of collective monologue by really listening - with the intent of understanding, appreciating and affirming. In short, the ability to hear is a gift, the willingness to listen is a choice. Embrace it.

#### **Be Creative**

Let's say you run a company with a beautiful product, but after 5 years or 10 years down the lane, your product or the value proposition may not be relevant to the market or customers. So, if you want to enjoy sustained success, be creative, listen to what the customer wants, what the market wants, and try to address that with your product offering.

Co-creation, in this context is an interesting concept. Here, the consumers play a central role from the beginning to end, providing inputs in the design process of a product/ service. Less specifically, the term is also used when a business is open to ideas, designs or content submitted by consumers. The firm will not run out of ideas regarding the design to be created and at the same time, it will strengthen the business relationship between it and its customers.

#### Do your homework

Sharpen your skills. In many of the jobs on offer today, continuous learning has to be a way of life. We all know about the story of two woodcutters who decided to go on competition to find out who can cut more tress in a day. While one woodcutter kept cutting trees with vigour, without breaks, the other took breaks to sharpen his tools and managed to cut more tress with less effort in the given time.

In a job situation, self-renewal is important, in areas such as physical, social or emotional, mental and spiritual, all to prepare you for future challenges. You also need to take care of your body by eating right, by exercising and getting the right amount of sleep.

Friends, in summary, the steps to success in are:

- Be Ready
- Have a Clear Plan
- Prioritize
- Empathise
- Listen to Communicate
- Be Creative
- Sharpen the Tools

But the most important key to success is to be people-oriented. While one climbs the ladder in one's career what predominantly matters is the ability to manage human capital. Here, I would like to quote the co-founder of Larsen & Toubro, Mr Henning Holck-Larsen, "Machinery may be there, buildings may be there... but without people, it's nothing."

On this auspicious occasion and a memorable day, I leave you with this blueprint for success. I wish you all a great future. May God bless you.

# Blazing a New Trail

Over the last 30 years, Venkatanarayanan Sriram (VSM) has handled sales, service, business development as well as the management of a business vertical in variety of industries and locations. At L&T Valves, he played a huge role in getting the ultra-high-pressure range of power valves accepted by key utilities and contractors. He also spearheaded the expansion of the product portfolio and customer-base of the DNA business. Sriram currently heads the newest vertical of L&T Valves. Aftermarket Business.



### Tell us a little bit about your educational background?

I completed B.Tech Mechanical Engineering from Thiagarajar College of Engineering, Madurai in 1991. Later I completed Master of Business Administration from Anna University, Chennai.

# Throughout your career, who would you say was your most influential mentor and why?

I had the opportunity to work with many people who were sources of inspiration - like Mr Sankaran, the head of Bluestar's air-conditioning projects business. I was fascinated by his style of working capital management. Every member of the team - from sales to engineering to purchase to commissioning to contracts and commercial - ensured that billings and collections happened as per plan, and the business managed with a negative working capital most of the time.

# What were your thoughts when you were offered the position of Head–Aftermarket at L&T Valves?

When L&T Valves leaders outlined the scope and challenge of the assignment, as well as its significance in the strategic plan, I was very excited. After an analysis of the alternative scenarios, I felt that there was a lot that can be done. I saw an opportunity to make it big by using the strengths of the brand and the team.

# What is the vision you have for the Aftermarket department and how do you plan to take that forward?

All of us have witnessed the evolution of the banking and insurance sectors in this millennium. The size of the industry helped them to conceive some of the practices on a large scale, the size of which were never heard of before. The industrial products segment has taken several steps but is still a long way away from a big leap forward. Today, the aftermarket industry is

fragmented, and knowledge is available in pockets without the connection. My vision is to bridge this gap using digital platforms and deliver our solid technical capabilities to customers, for the benefit of all stakeholders.

# What are some of the strengths of the L&T Valves Aftermarket department?

We are celebrating 60 years of our existence, which means we have an installed base of millions of valves and thousands of customers across the globe who have tasted success with L&T Valves. Our wide product basket, the strong manufacturing base and modern practices are the strengths that give us the confidence to address this huge opportunity. We also train and nurture talent to help them address the challenges in the field.



From Inflow-Outflow, April 2004 Mr. Venkatanarayanan Sriram was born in Madurai, Tamil Nadu on April 12, 1970. His father, Mr. V. Venkatanarayanan was with SBI and his mother, Parvathy, a housewife. Sriram has one sister and one brother.

Sriram graduated in Mechanical Engineering from Thiagarajar College of Engineering, Madurai in 1991 and started his career with Beacon Process Pumps, a subsidiary of Best & Crompton. Sriram, after training, was posted in the Testing Department and gained valuable experience handling inspection agencies.

After a year with Beacon, in 1993, Sriram joined the air-conditioning giant, Blue Star in the Service Department, handling HVAC service contracts, retrofitting and revamp. In 1995, Sriram moved to the Project Purchase Department.

Sriram joined L&T on December 15, 1997 in the Industrial Valves Section, Chennai. During his three years in Chennai, he played an important role in securing key approvals - from ISRO for Launch Pad - II, for Slimseal Butterfly Valves for DHDS projects, etc. He was also instrumental in getting Orchid Pharma back into the L&T fold.

In 2000 Sriram was transferred to IVS-Delhi. There he played an important role in nurturing Moser Baer, today one of the biggest customers for Ball and Butterfly Valves.

Sriram moved back to Chennai in 2002 to head the Valves Marketing Section, Chennai.

Sriram's hobbies include playing badminton and table tennis, listening to music and reading, especially Tamil Classics.

He married Vidya on June 16, 1997. She shares Sriram's passion for music. The couple has two sons, Prasanna, aged six years and Prakaash, aged three.

# What are some of the major challenges that the Aftermarket department faces?

There are myriad challenges for the aftermarket segment. Delivering aftersales services is more complex than manufacturing products. Manufacturing can change the product mix at any point of time due to various strategic initiatives, but the service network cannot refuse to repair any product sold in the past. The service personnel have to be trained in a variety of psychological and behavioural skills apart from technical and soft skills. The entire Aftermarket segment operates in an unpredictable and inconsistent marketplace where businesses expect accurate, consistent forecast of numbers.

### What is the greatest achievement in your career?

I consider the product approvals and range extensions from NTPC for

their various thermal power Ultra Mega Power projects as an important achievement. The Green Channel Award received from Defence Quality team for our DNA products was a great achievement. However, I feel that the greatest is yet to come.

### Which book has inspired you the most in your life?

There are several books that shaped my life at different points of time. The Goal by Eliyahu Goldratt had given me many insights in my professional life. Further, The Power of Now by Eckhart Tolle had given me an awakening at a time when I most needed it.

### If you had to recommend a movie which would that be?

I am blessed to have family members who have good taste in movies and books. Movies were always followed by critical reviews with arguments. Some of the classic movies, like the ones directed by K Balachander, used to provide lot of content for such discussions.

I have always loved the movies directed by Steven Spielberg and admired his versatility to handle subjects in various settings – movies like Jaws, Star Trek, Schindler's List, Jurassic Park, the Indiana Jones series, Catch Me If You Can, The Terminal, The Adventures of Tintin... Each one of them was so unique.

I consider Panchathanthiram by actor/director Kamal Haasan, aided by dialogues by Crazy Mohan, as an anytime watch.

### What was an unforgettable (good or bad) experience you went through?

The trauma that experienced after I met with a road accident during my younger days is the most unforgettable one. It is the also the incident that I want to forget the most.



Bharathi, the women's forum of L&T Valves, was launched on 2 December 2021 at CBR in the presence of the CE. The objective of the forum is to help its members 'go beyond', step out of their comfort zones and emerge as leaders and role models.

The four pillars of the forum are Personal Enhancement, Professional Enrichment, Social Involvement and Special Talent Advancement.



**Bhuvaneswari M**President



**Bhargavi Lingineni** Vice President



**Kalai Selvi** Secretary

# Kancheepuram Khabar

It was a busy quarter at the Kancheepuram plant. We played host to Dr C Jayakumar, Executive Vice President & Head - Corporate Human Resources, Larsen & Toubro. We also celebrated Ayudha Pooja, Diwali, Christmas and New Year – all while practicing safe and covid-appropriate behaviour.



Dr C Jayakumar with J Suresh, Plant Head



Ayudha Pooja









# **Long Service Awards**

# Congratulations to All Awardees



**Kumaravel K**Product Head - BFV, CBR



**Durairajan K**Assistant Manager - Supply Chain Management, CBR

## **Wedding Bells!**

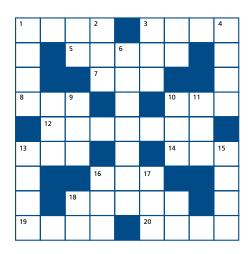


Congratulations to Sudhan B and Saranya, who got married on 13 December 2021.

## **Just Born!**



Ezhilarasan P and Jothi were blessed with a baby girl, Maghizhini, on 3 October 2021.



# Out-of-this-World Crossword for Val-kids

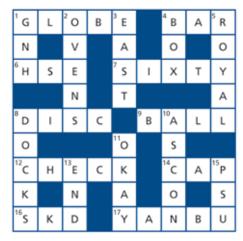
Send your entries to v-connect@Lntvalves.com for a special prize!

#### **ACROSS**

- 1. Earth's closest neighbour (4)
- 3. US space agency (4)
- 5. The planet named after the goddess of love (5)
- 7. The Earth is called a --- planet due to the presence of water (3)
- 8. The centre of the solar system (3)
- 10. --- Space offers solutions for cryogenic propellant management system (3)
- 12. The Eighth planet (7)
- 13. The offspring of Thanos and Lady Death. A cosmic entity native to the Marvel Universe (3)
- 14. One rotation of the Earth (3)
- 16. Armstrong landed in the --- of Tranquillity (3)
- 18. Month of the Vernal Equinox (5)
- 19. In 2021 a group petitioned to ---- a billionaire in space (4)
- 20. The star named HD74423 is ----drop shaped (4)

#### DOWN

- 1. The red planet (4)
- 2. ---Space is working to open up the new frontier (3)
- 3. --- and bolt (3)
- 4. This satellite studies air quality and climate (4)
- 6. ----- Heaven nor Space is a cosmic country song (7)
- 9. Starlink can provide --- access in remote locations (3)
- 10. The Restaurant at the --- of the Universe, Book by Douglas Adams (3)
- 11. ISSpresso makes --- in the International Space Station (3)
- 13. 3rd ---- from the Sun, American Sitcom (4)
- 15. One trip around the sun for earth (4)
- 16. Gravity is a Google Wave gadget developed by (1,1,1)
- 17. ---InSpace is a space application hackathon (3)



# V-connect Crossword Oct '21 Solution

And the winner is Aravind Siddharth S, QC, CBR

