# Connect

# Resilience

Achieving great results against great odds!



#### Dear Friends.

Connect is back after a brief hiatus, bursting with news, information and energy. This festive season, its our pleasure to bring you updates from across CUMI, stories on our theme of Resilience and pictures from various parts of our rapidly growing organization.

Why resilience, you ask? Simply put, resilience is just the ability to bounce back after problems or tough situations, and soldier on. Post Chennai's terrible floods in December last year, the city was reeling. Yet look at it now! It has put on its 'game face' and is back to being a bustling metropolis. The citizens have shown their resilience in testing times, and though the scars remain; by and large we are back to business as usual.

There is a saying that 'Man never made any material as resilient as the human spirit' – and at CUMI we've seen that time and again. Yes business has shown resilience in the face of economic crisis. But it is the resilience of every employee that has truly helped CUMI come to its feet, every time it stumbled. In this issue we salute the spirit of resilience in our businesses and in our teams.

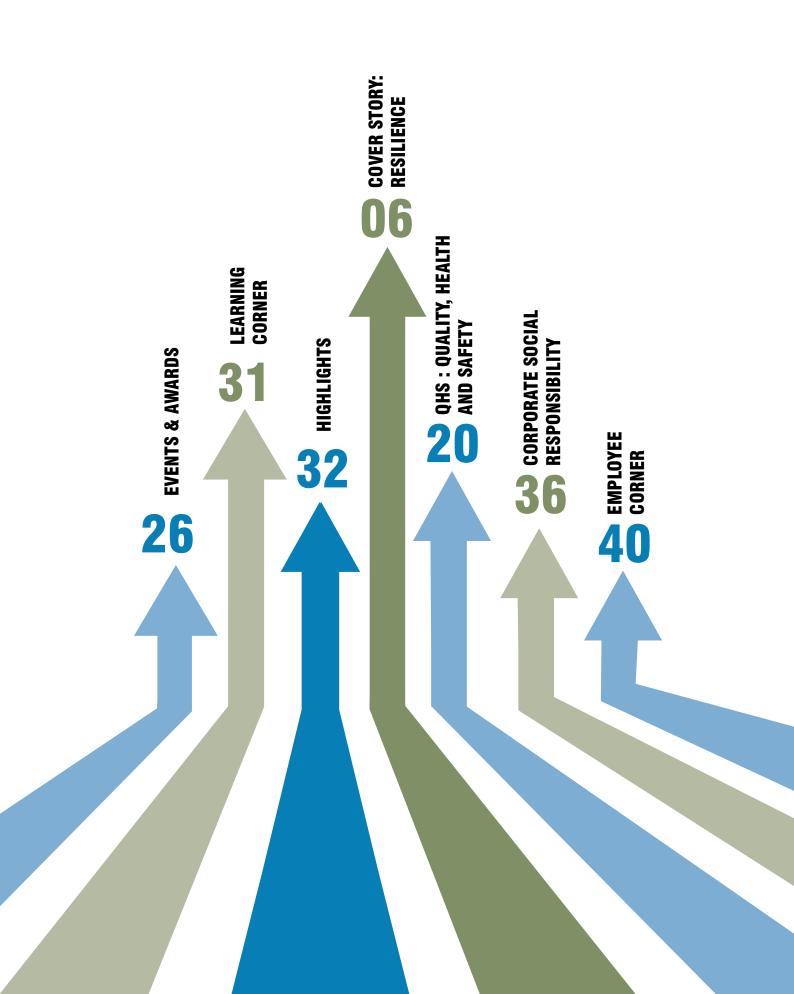
So, turn the pages to read about the resilience of our business units; get introduced to some new acquisitions to CUMI's galaxy and catch up on a whole lot of pictures and news from all our locations. Wishing you a happy festive season.

For Editorial Team

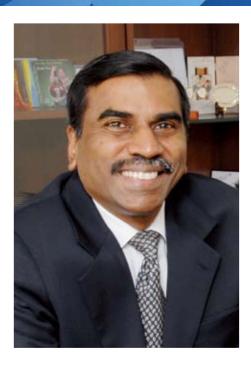
M. Muthiah







#### **CHAIRMAN'S MESSAGE**



#### Dear Colleagues,

As we complete the half year 2016/17, I have been spending a few moments in reflection and introspection on how the world's and our country India's economic situation has been impacted over the past few years. While economic growth has not happened as expected, many significant events have taken place. We have in India a majority Government in place whose agenda is large and wide with a strong resolve to spur economic and industrial growth. While this has not happened entirely, we have as a country been benefitted by the decline in commodity prices and some green shoots of growth.

Against this backdrop my thoughts naturally went towards our company CUMI and how all this has impacted us. In the past few years our development has been steady despite many difficulties. What is important in my view is our ability to recover from some setbacks we have had internationally and in India, our conviction to face challenges, and the willingness to adapt to changes and get back to a growth agenda. This to me is the hallmark of a Resilient company. For CUMI the need for such timely Resilience, was and continues to be very important. Setbacks and successes are both great experiences from which we must learn continuously. Our business progress so far, our investments in technology and research and most importantly, commitment to our customers, reflect this. We at CUMI are Resilient people who accept reality, have a strong commitment to sound values and the ability to serve our customers well in our journey to Make Materials Matter.

Resilience has helped us overcome tough situations and through this learning we must get back to growth with both conviction and confidence. Thank you all for your unstinted support and wish you great success going forward this year and in the years to come.

Warmest regards,

MM Murugappan

Chairman

# MD'S MESSAGE



Dear Colleagues,

#### Greetings!

It's been near two quarters of steady progress. As we prepare for our Long Term Strategy, it good to pause and look at the journey so far and at what lies ahead. Clearly the future is not going to be an extension of the past. We are at a point in time when the way we travel, communicate, entertain and live are all likely to change dramatically. To appreciate the pace of this change we must understand that over 90% of the food we consume are based on what was domesticated 12,000 years ago at the beginning of the Agricultural revolution; over 90% of all the economic and social activity that consumes most of our life is based on the inventions of the last 500 years since the industrial revolution. In the same accelerating pace the next 20 odd years would probably see more dramatic changes that ever before. In this we have a choice: We can witness history being made or we can make history. Material science is going to be a key component in this change and CUMI is well positioned to play a stellar role.

At CUMI, we need to think beyond discipline, continuous improvements, efficiency, productivity etc. These are hygiene factors. By now this must be in our DNA. Today we must drive change; we must come up with next practices, come up with game changing products and business processes. How can we do this?

- Accept change. Even as an individual, be willing to move out of comfort zones.
- Collaborate across functions, across SBU's, with vendors and suppliers. It's the ability to collaborate that has made humans the strongest of all species.
- Be comfortable holding contradictory beliefs. After all Equality and Individual freedom are beliefs that we all hold dear and yet at many times they are in contradiction to each other. We need to get the quarterly numbers; we need to build the next great product. We must do both – now!
- Remember: To the passionate and committed, it's all about the goal and the journey, it's not about the role!

I am convinced that we have more than the critical mass of CUMI-ites who tick all the above boxes. Wishing more to join in on this exciting journey to the future! Good luck & God speed.

**Best Regards** 

K Srinivasan

Managing Director

# RESILIENCE



Connect's theme this year is RESILIENCE - that mythic ability to rise from the ashes and make a comeback even when the going is tough. This theme particularly resonates with our organization when you think of all the resilience testing we do for our material sciences products!

Scientifically, resilience is the ability of a material to absorb energy when it is deformed elastically, and release that energy upon unloading. Words such as Proof resilience and modulus of resilience are common in CUMI's technical jargon; but what does this word mean to us personally and as an organization?

Resilience is typically defined as a personal capacity to respond to pressure and the demands of daily life. Dictionary definitions include concepts like flexibility suppleness, durability, strength, speed of recovery and buoyancy. In short, resiliency affects our ability to 'bounce back' from tough experiences. Haven't you often wondered about the qualities that allow some people to be knocked down by life and come back stronger than ever. Rather than letting failure overcome them and drain their resolve, they find a way to rise from the ashes. Psychologists have identified some of the factors that make someone resilient, among them a positive attitude, optimism, the ability to regulate emotions, and the ability to see failure as a form of helpful feedback.

This ofcourse refers to personal resilience, a quality that's an adaptive skill – you may be born with it or you can learn it but either way it will make your life better. Some great examples of human resilience are described below –

## The Chennai Floods

A devastating event that traumatised Chennai in December 2014, was the unprecedented and unexpected flooding of the city. A combination of bad weather, illegal urban development on wetlands and an overstretched sewerage system combined to give Chennai its worst ever floods. When the waters finally receded by December 6th, 500 people were dead, over 18 lakhs people displaced and 8000 crore INR worth of damage had been done to property and business.

CUMI was affected badly too, with several employees homes' being inundated, supply chain coming to a standstill, complete electricity blackous and our mother plant at TVT under a few feet of water.

Even as the city reeled under the shock of the event, people began to demonstrate their resilience. Citizens reached out to each other, donated from their own homes, walked through floodwaters to ensure others had food and supplies and aided the army in rescue efforts. TVT threw its canteen open to the floodwater affected residents of the community around and ensured they had hot food atleast. Several relief kits with basic necessities were prepared and donated by employees to those severely affected by the floods and displaced from their homes.

# Where there's a will, there's a wall, and her journey to Everest

There is an old English proverb - "Where there's a will, there's a way". Arunima Sinha is a living example of that. A national level volleyball player, Arunima lost her leg after a horrific incident where she was thrown off a train in 2011. She was attempting to fight off thieves who wanted to steal her purse. A passing train crushed her left leg, forcing doctors to amputate below the knee to save her life. Yet her indomitable will pushed her till she stood on top of the world and achieved what is unthinkable for most of us on September 22nd, 2015. She is the world's first woman to conquer Mt. Everest on a prosthetic leg, at just 26 years of age.

# Phelps — the man and the medals

Phelps has not had an easy ride. He has spent over 16 years, literally half his life, preparing for and participating in the Olympics. The grind wore him down, and Phelps was ready to leave professional swimming behind him after London. He never came to terms with his father, who had divorced his loving and supportive mother when Phelps was just 9 years old. This was further compounded by Olympic pressure and years of military-like discipline in training. Over the course of a decade, he was charged with two DUIs (Driving under influence of alcohol) and was caught smoking pot. He entered a rehabilitation center in October 2014 five days after his second DUI arrest. Less than two years later, he is in Rio winning gold medals.

To put it in perspective, at just 31, and after swimming in five Olympics, Phelps beat a 2,168 year-old record for individual medals by winning 28 medals in total: 23 gold, three silver and two bronze. We may not live to see this record broken! Yet for all the glory and acclaim, Phelps had a tough life. It was his inner resilience and his support network, that pulled him through to make him the star he is today. Like he says, "You can't put a limit on anything. The more you dream, the farther you get. I think that everything is possible as long as you put your mind to it and you put the work and time into it. I think your mind really controls everything. If you want to be the best, you have to do things that other people aren't willing to do."

# Resilience from an Organization perspective

A famous quotation goes - "More than education, more than experience, more than training - a person's level of resilience will determine who succeeds and who fails. That's true in the cancer ward, it's true in the Olympics, and it's true in the boardroom!"

Resilience is an organisation's capacity to anticipate and react to change, not only to survive, but also to evolve. The key word in this definition being "change" – resilience is required in response to all kinds of change, not just crises. To be resilient, it's true that companies need to be able to manage through an earthquake's disruption of a supplier's factory. But it also means companies need to manage through tectonic shifts in consumer purchasing behaviour, by anticipating those shifts and re-orienting the organisation to continue delighting customers.

Change is everywhere, in every market.

Megatrends are washing over the global
economy – from demographic change to rapid
urbanisation, from shifts in economic power to
climate change and technological breakthroughs
– together they are driving an extraordinary
economic dynamism. The result is an uncharted
ocean of change that some companies fail
to navigate and that leads others to find new
worlds of opportunity.

The truth is that resilience in the face of change has always been valuable. What's different today is the necessity to take greater risk in a fast-changing and unpredictable environment – and acquire the ability to spot and act on emerging opportunities before competitors do. PWC's resilience model describes 6 characteristics.

The first three traits represent mostly internal capabilities, that is the organisation's ability to respond to change.

**Coherence**, or being able to make joined-up mutually supportive decisions, **Adaptive Capacity**, or being able to reorganise for change, and **Agility**, or being able to make and implement decisions at required speed.

These traits are clearly vital in response to a crisis, when time and distance work against hierarchical decision-making. But coherence, adaptive capacity and agility are also hallmarks of how a company is able to make the most of change.

The second set of traits represent the organisation's relationships with its customers, business partners and other stakeholders, which are equally important to the organisation's ability to respond to change:

**Relevance**, or consistently delivering on stakeholder needs, **Reliability**, or consistently delivering to expected quality, on time, and **Trust**, or knowing how to create investment-worthy rewarding relationships.

Read on to see how CUMI relates to this model. If IC's debottlenecking of the engineered ceramics line represents adaptive capacity and agility, the NTK takeover and Power Tool's shifting reflects Coherence. The NEEM project at hosur directly correlates to Trust. Wendt's acquisition of Star shows agility in a competitive marketplace, while the CUMI Direct story relates to Reliability and Trust.





# Project 108 @ Metz





By the end of 2013, the demand was continuously increasing and had exceeded the installed capacity. The team decided to explore options of debottlenecking the existing production line to meet the growing demand, rather than pursuing the easier path of making an additional investment in a new line, which would have cost Rs 50 to 60 Crores. This project was named 'Project 108', both as a nod to the emergency number denoting the urgent need of the project; and as a reminder that only if the line could churn out 108,000 cylinders a month (monthon-month), then the turnout would be the ambitious target figure of a million cylinders per year.

In conversation with Shanmuganathan, AGM - Metz and Prathap Kumar, AVP - Technical Ceramics, we listened with fascination to the success story of this project. A team of nearly 220 people were part of Project 108, spearheaded by Dr Shyam S Rao and included members from all sections of manufacturing and allied departments. The teams studied the 26 stages of manufacturing cylinders, and divided it into roughly 15 processes. Each process was then looked critically from a debottlenecking and capacity increase point of view. This organized setup thus ensured that as each weak link (bottleneck) was rectified, the next process was under pressure to take on more.

Faced with this task, the internal team did a fabulous job of coming up with several innovative ideas. Borrowing from the concept of the Russian Matryoshka dolls (which is a set of wooden dolls of decreasing size placed one inside another / also called as nested dolls), the team rearranged the loading of cylinders in the furnace such as to maximize the utilization of space within the furnace. Smaller cylinders were nested into larger ones, thus significantly increasing the throughput of the furnaces.

The team also worked on the machining and chamfering processes

With full enthusiasm and a strongly proactive approach, they have worked really hard to improve reliability of the process.

- Shanmuqanathan

and came up with innovative ways of increasing capacity. The machining and parting process typically involves the usage of a single tool to machine the length of each cylinder, which for a 375 mm length took about 10 minutes. The team came up with the innovative idea of mounting 2 cutting tips on the same machine, which automatically halved the cycle time and doubled the productivity of the same machine for the same time of utilization. Similarly, in the chamfering process, the tool would first work on the internal diameter of the cylinder and then on the external diameter. Mounting two cutting tools at the same time, for the additional cost of a mere 3000 Rs, led to doubling of the productivity, within the same time frame. These seemingly minor changes have dramatically increased production capacity, bumping up output from 0.6 million cylinders to 0.95 million cylinders in the last year.

The best part? The total capex of this project has been less than 0.6 crores till date, with a phenomenal increase of 30% in production capacity. Not only that, the number of different models manufactured has risen sharply from 14 to 45 different models. The cherry on the cake was that these improvements lowered the variable cost. After 4 decades of bitter competition, CUMI had the satisfaction of outpacing NTK Technical Ceramics of Japan in the metallized alumina cylinder business. Moving promptly to seek competitive advantage, the management has negotiated a deal with NTK for its technology, process and machinery. More about this in our next article!

Adopting the TPM way to optimize OEE has also helped this dramatic turnaround, with its focus on zero BAD (Breakdown, Accident and Defect). Reduced breakdowns have increased capacity directly, losses have fallen as accidents dropped and throughput has improved with a decrease in defects. The team has truly triumphed in their spirit of comradeship and teamwork. "With full enthusiasm and a strongly proactive approach, they have worked really hard to improve reliability of the process.", says Shanmuganathan. "There were no losses in handovers and like the baton relay at the Olympics, the team has pulled together really strongly to make this work." The top management encouraged the Project team along with reviews, inputs, information and inspiration. Dr Shyam provided continual support in addressing technical issues and Marketing & Quality team also enabled faster product qualification resulting in improvements. In keeping with this, the reward and recognition scheme was modified to encourage and reward ideas from shop floor staff; and ideas were actively discussed in shop floor meetings on the 1st of every month.

Prathap spoke warmly of how the team and Project 108 were recognized with a CII Innovation award. Selected in the top 25 companies in India, in the Small & Medium Enterprises category (for this was exclusively for Metz as a unit); this was a big win for the project team.

With just the final lap to run to meet the 1 million target, let's wish the team at Metz the very best and congratulate them on this splendid show of resilience and resourcefulness. Go Metz!



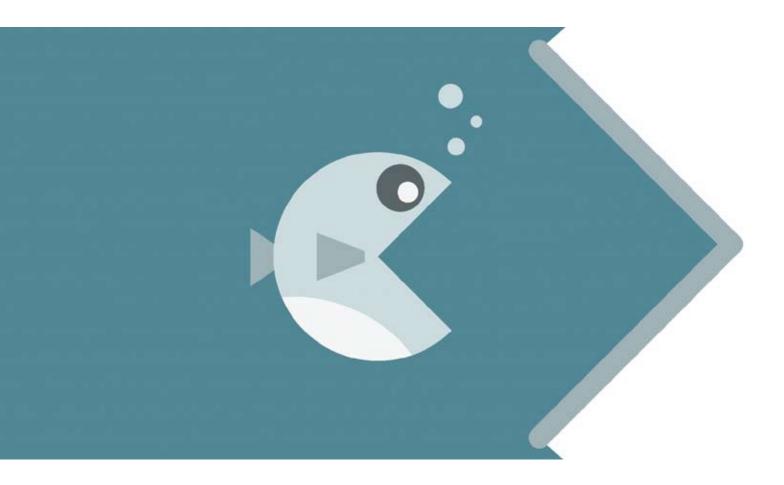








# NTK acquisition



'he latest at CUMI IC is the expansion project of metallized alumina ceramics. It is a unique and exciting project involving acquisition of technology and assets from a leading global competitor NTK Technical Ceramics, Japan. A reputed player in the field of technical ceramics with a consolidated revenue of over \$ 3 billion, NTK has been a fierce, yet revered competitor. Acquiring the assets and technology from NTK was truly a great achievement for the IC and Metz team. It was the outcome of sustained efforts put in by the team over the last several years. In conversation with Prathap Kumar, AVP-Technical Ceramics, we listen in

on the fascinating story of how CUMI signed an asset transfer agreement with our biggest competitor.

As you may have read in the article on Metz, the global market for metallised alumina cylinders has been showing sustained growth over the last few years. CUMI's line of metallised cylinders has been very well accepted in the market, and there has been huge customer demand. This led the management to consider doubling production capacities, by setting up a new line. As this idea was being explored in 2014, word came that NTK, a leading ceramics company based out of Japan was planning to exit

the business and were willing to sell their assets to an interested party. After appropriate due diligence by the senior management, a decision was taken to acquire their assets instead of setting up a completely new line from scratch.

Several rounds of discussion took place, with senior teams from both companies, visiting each other, This culminated with an asset transfer agreement being signed in June 2015, with CUMI acquiring not only assets, but technology, process knowhow and access to key suppliers and key customers of NTK. This was a significant breakthrough, as it put CUMI in the

unique position of engaging with well established organizations globally and significantly strengthening its market position.

#### How the transfer took place -

Technology was transferred with a very well structured on-the-job training program for a team of three from CUMI - Shanmuganathan S, Assistant General Manager -Manufacturing, Ravindran A, Assistant General Manager – New Product Development and Karthikraj SP, Manager - Manufacturing. This was completed first at Japan, before dismantling the equipment. The month long training program involved instruction on each stage of manufacturing and every piece of equipment, both hands-on and with classroom training. Following this visit by the technology and manufacturing team, the Project team, headed by Singaravelan S, Dy General Manager - Projects, visited Japan and were present when the equipment was dismantled and transported.

A conscious decision by the management on using the services of a third party Japanese company to handle the dismantling, transportation and reinstallation at Hosur, proved to be meritorious for it ironed out several cultural and logistical hassles.

#### The new line right now...

The equipment has been reinstalled at the Hosur IC plant, with optimal utilization of existing space available. The compact layout designed keeping in mind space limitations, has the new line set up on two floors; thus expanding vertically instead of horizontally. As part of the agreement a team from NTK will be visiting for two weeks, once the line is ready to begin production

to offer support and stabilize any production issues at the start.

Currently infrastructure for plant utilities is being set in place. As the furnaces runs on natural gas (CNG), a resource currently unavailable in Hosur, the team is working on setting up a CNG storage facility and is entering into agreements with gas companies for supply from nearest Gas terminals. This line, once operationalised, will add an additional capacity of 7,20,000 cylinders per year; taking up IC's capacity from 1 million cylinders per year to 1.72 million cylinders per year. In the global market, this would make CUMI a force to reckon with in the alumina ceramics category. In answer to our question whether this acquisition would also add new products into CUMI's basket of offerings, Prathap replies, "Within the family of metallized cylinders, the way NTK processes its products is quite different. Formulation, equipment, cycle time - all differ. Thus it would help in making the products more efficiently. Going forward, the line can also be used for making value added metallized products for advanced applications in electronics, semiconductors, optoelectronics and medical equipment. This has already been taken in the long term strategy of the division."

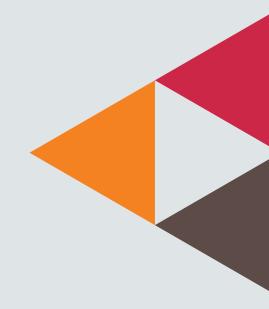
# The bumps and the highs of this new road ...

As Prathap candidly says "The process wasn't a smooth ride from start to finish, but it was a fabulous learning opportunity for the team." A major challenge of course, was dealing with a competitor of the stature of NTK. Building trust was crucial and once the initial challenges – legal, technical and cultural - were overcome, the process was smooth. In the initial phase, reaching a consensus with each other on

the exact terms and conditions of the Asset Transfer agreement took a very long time, and was immensely challenging. The senior management and legal teams had to invest a lot of time and energy in ironing out an agreement that was mutually beneficial.

In the end, the process was extremely rewarding. The processes of dismantling equipment in Japan, the training given to CUMI's personnel, the transfer to Hosur and the reinstallation here – all went well. The technological learning was immense and the meticulousness of the Japanese partners (the heavy engineering company, the transportation and logistics company) was commendable. The opportunity to learn and acquire from a top ceramics competitor was an unforgettable experience for the entire team involved. The icing on the cake was the opportunity to visit Japan and experience its unique culture.

Connect and the CUMI family wish Metz the very best to reach ever greater heights with this new line!



Powertools



# In the last FY, PT has crossed 2 crores in business 70 new dealers have joined the network The CUMI PT brand has been marketed strongly with any hibitions, road that was accomplished very smoothly and at top speed.

When asked about the reason behind the move, Satish Ram, AGM - Sales, says candidly "Topline at Power tools was not increasing, but all variable and employee costs were on the rise. In the volatile competitive market that this operates in, any cost reduction helps. This prompted the management team to take a close look at costs - which gave a rather grim picture. The leased property came at a very high rental rate; government taxes and employee cost of all permanent workers were another contributing factor. There were also many administrative costs like the cost of running a canteen, transportation for workers from Bangalore etc. All this, when a mere 35 kilometers down, we had a fullfledged facility with sufficient space at Hosur. As Power Tools was also merging with the Abrasives business, it made business sense to shift to Hosur."

Once the decision was made, a cross functional team championed by Soundera Pandian S, General Managar-HR, was quickly set up with members from Operations, Technical, HR and Projects. Over a period of 2 months, plans were finalized regarding the move. Space was made and basic infrastructure set up at Hosur. In order to ensure that customers were not affected, the move was planned in the last 10 days of the month, after promptly dispatching all orders in the first 20 days. In just a fortnight, plant

operations wound down, machinery, stock and WIP were transported to Hosur, premises handed back to the owner and all legal / governmental formalities completed.

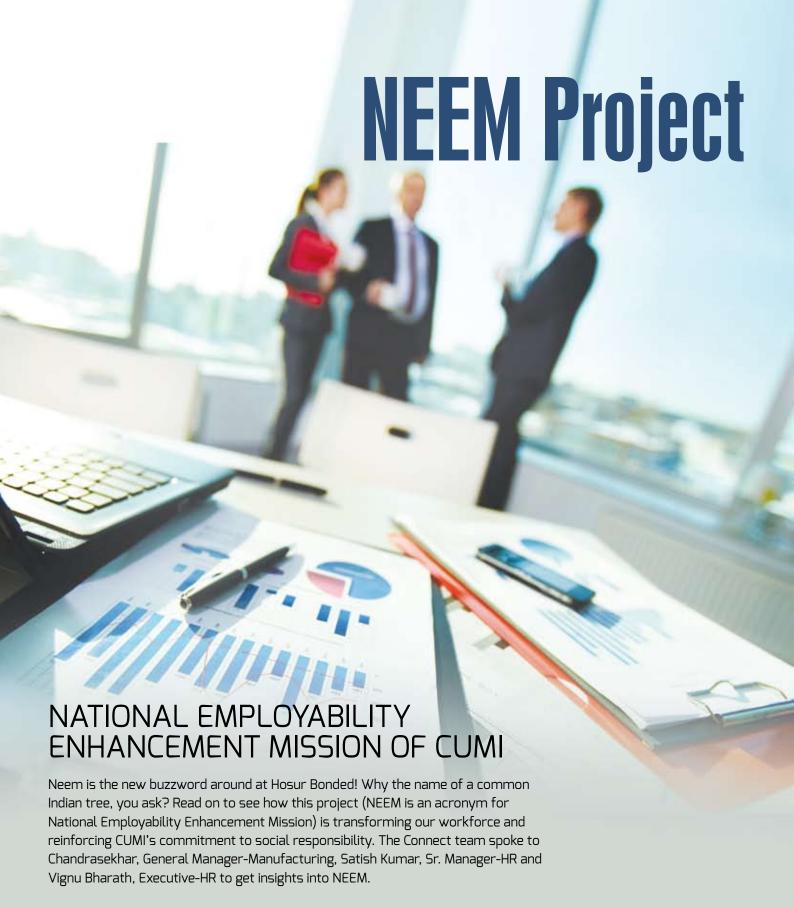
The smooth finish did however involve several weeks of planning in advance. As the existing team consisted mostly of employees from Bangalore, they could not move to Hosur. It was also not feasible to organize buses to ply from Bangalore. Thus employees had to be notified and a severance package finalized. The union did not take it lightly and insisted on heavy compensation. It took much discussion between the management team, and the union, before a mutually agreeable package was finalized. Once the settlement was signed, all other legal formalities were completed with no violation of the law of the land. Thereon, all other wind-up processes were amicably done. The Inspector of Factories, Karnataka industry board, and other governmental local bodies were notified and formalities completed. The leased property was handed over to the landlord, and the advance paid was collected.

Even as things were moving towards closure at Bangalore, in Hosur work was proceeding on setting up the new line. Trainees from the CCSD underwent on-the-job learning, guided by a few supervisors and

management staff from Power Tools who were deputed to Hosur. Within a week of operations winding down at Bangalore, the line was set up at Hosur. In the first month itself 600 units were assembled by the new team, tested and certified. Thus, there were no hiccups or shortages in serving customers. A small office has been set up for the management team in Hosur Bonded.

This move has better consolidated the Abrasives Business, with PT now becoming an integral part of it, adding to the product portfolio. The integrated sales force too has made it easier to offer customers a bouquet of different offerings for their various needs. In the last FY, PT has crossed 2 crores in business and 70 new dealers have joined the network. The CUMI PT brand has been marketed strongly with exhibitions, road shows and dealer counters. Overcoming challenges such as scarcity of spare parts, setting up and operationalising the new line, attrition in the marketing team, et all; the business has shown a YOY growth of 11%. The production line at Hosur can now produce 10,000 machines, and over 54 different models of cutting tools for wood, metal, stone and stainless steel. 80-90 lakhs of sale is now via online channels through various e-commerce portals.

Here's wishing PT a great future in their new home!



The factors that contributed to the decision to launch this project were building a more skilled workforce, and reducing dependence on contract labour. In 2015, contract employees across CUMI numbered over 3600. As per the Conferment of Permanent Status Act 1981,

the law dictated that engaging a contract worker for over 480 days would automatically confer permanent job status. Thus the workforce was very temporary in nature and in constant flux. Added to that, the contract workers were raw hands, who had to be trained

to operate machinery and handle mechanical outputs. This meant that the supervisory team had to invest much time and energy on training and acclimatizing workers to the company's quality standards, production process and work culture. Product defects would often

occur because of lack of proper learning and accidents (largely nonreportable) were common.

The need of the hour, was a workforce that was skilled and could continuously service the organization 3-4 years down the line. As the NTTF scheme came up around this time fortuitously, project NEEM was adopted and launched in CUMI. NTTF is already running similar programs (2+2 year 'Learn and Earn') successfully with other large organizations such as Saint-Gobain, Ashok Leyland, TPI, TVS Group etc.

In this kind of a work set up, there are 3 major components - the NEEM agent namely NTTF, the partnering industry namely CUMI and the NEEM trainees which are the young recruits. These trainees are selected from different backgrounds with the only criteria being that they have crossed the age of 18 and have passed Standard X. NTTF as a NEEM agent has full responsibility for supervising the students and their training (a permanent staff member of theirs is in residence with the students), testing them and handling their monetary transactions. Thus CUMI as partner industry pays NTTF a training fee, which reaches the students as a stipend. This is as per a central government scheme launched by Shri Narendra Modi.

This is a 4 year program with the first 2 years being a certification course in manufacturing technology. Successful completion of the next 2 years as well, ensures that students are awarded a diploma in manufacturing technology. The trainees work 6 days a week, 5 of which are on the job training in CUMI's plants and 1 day is devoted to classroom learning with the NTTF supervisor. CUMI staff too, take certain sessions in rotation on that day. Thus at the end of 4 years, these trainees will be trained to handle production lines and qualified to work at CUMI or any manufacturing setup. This ensures

not only a constant source of skilled trained labour for us, but also gives us a chance to give back to society by making these young adults from disadvantaged backgrounds employable and capable of supporting themselves and their families.

The trainees are given uniforms, accommodation and food is provided at a subsidized rate. At present 2 batches of 35 trainees each, are undergoing training. Recruitment of the trainees differ, with UTK opting to take on NTTF selected trainees, and Hosur personally recruiting trainees from across Tamil Nadu. The youngsters were handpicked after visits by the HR team to several small villages and towns in a 100 km radius around Hosur. Once selected, basis a personal interview and a basic test of ability (aptitude, general knowledge, science, maths

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ability (aptitude, general
knowledge, science,
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and English are the components of the test); trainees are invited to visit the company at Hosur, which is where they also make their association with the NTTF.

NTTF then organizes for a "ropein" program at their premises in Electronic city, Bangalore. In this 4-6 week long program, a mix of topics both technical and for personal effectiveness are covered. First 2 weeks topics covered are team building, creativity, exercises on positive attitude development, human relation Principles, 55, Memory training, Personality development, Health and Hygiene, Shop floor safety etc. The next 2-4 weeks covers basic shop floor operations, bench / machining exercises, technical communication, drawing, Applied science and Industrial best practices, adapting to Industrial discipline and work environment such as - shop floor discipline etc.

Post training and assessment, the trainees come to CUMI where they undergo on-the-job training in a structured manner, with rotation between modules. Each trainee receives and maintains a learning card which details their training. Supervisors must sign off with details of machines learned and period spent on training. Only once the trainee has demonstrated his / her ability to effectively use a machine, then they are allowed to operate it without constant supervision.

How does this differ from the CUMI Centre for Skill Development, we ask? Chandrasekhar explains that what CCSD offers is an ITI, while this is a Diploma program. CCSD is fully run by CUMI but for NEEM, we are only a partnering industry. The bulk of supervision and course management falls on NTTF. The third key difference is that NEEM is more of a skill building program, wherein the students once qualified, can join as permanent operators. CCSD on the other hand offers more of vocational training and its graduates cannot be involved in direct production.

While, its early days still – this project has been running only 6-7 months now; Project NEEM is on the right track towards producing diploma holders with the skills needed to easily land jobs. Here's wishing the team the very best!

# **CUMI Direct**

CUMI Direct's story is very reflective of Carborundum Universal's resilience in the face of adversity and our ability to adapt to change. The fledgling idea of selling B2B products directly to the customer over telephone, arose from CUMI Canada's Direct Marketing success story. When Canada showed continued success from this selling model, it laid the foundations for CUMI Direct's foray into the market in the mid 2000s. In the B2B sector, such direct marketing is rare. Cumi Direct (henceforth referred to as CD) started small with material handling equipment and abrasives.

Now in the year 2015-16; CD has come of age with a business of 10 Crores! The entrance of Veetus B, Sr. Manager who comes with strong experience in direct marketing from global and service organizations, has helped strengthen the team. Under the able leadership of Muthiah and the senior management team; a decision was taken to make CUMI Direct a solution seller of entire warehousing solutions. This change in mindset and business direction; from being a product centric company to a solution centric company is being gradually achieved with a young but able team, and robust training programs.

Several changes were made as this business, because of its uniqueness; could not be treated on par with CUMI's regular businesses. The focus was gradually shifted from daily outputs or expectations, to daily inputs that would influence

the final outcome. The team began to function based on a strong performance scorecard and daily discipline from January 2015. This involved that each agent touch base with 60 customers a day, maintains an average talk time of 2 minutes per customer, achieve minimum talk time of 2 hour daily, focus on sending 5 quotations a day etc. Productivity and efficiency has dramatically increased based on this focused metric system , with sales increasing from 35 pallet trucks a month to 400 plus a month; from selling 1 semi electric

stacker a quarter to 20 a month .... soon. This transformation became possible by paying utmost focus to customer needs and laying emphasis on building a relationship with him. CD stuck to the core ideology of selling the right products to the right customer at the right price, and building in service efficiency.

The rigorous training programs for the team has a mix of classroom sessions, role plays where trainees act as agents and potential customers, and many interactive sessions with industry experts. This systematic training schedule also led Veetus to the idea of "Day One readiness". Earlier, newcomers would undergo 2-3 months of training and would take nearly 6

months to achieve a 2 lakh sales target. "Day 1 Readiness" aims to train new employees to make sales calls right from their first day at work. Post a few hours of classroom based training, they need to make 5 calls atleast on day 1. The interactions on Day 2 are thus livelier as having got a taste of the action, the newcomers have many questions. This methodology of training has decreased the settlingin time for a new joinee, and new members to the team now achieve 3 lakh sales by just the end of the first month on the job.

Not just the tele-marketing team, even the service engineering team has been given a rigorous overhaul. The simple mandate now is that "Everyone working with CD has to sell!". The initiative of- Sales through Service - has had the service engineers learn to look for business opportunities anytime they attend a servicing call. This has paid rich

dividends, with several leads now coming in from the service team.

Veetus and Muthiah reveal that future plans, are to make CD a place where employees are competitive, enjoy their work and know exactly what they must contribute. They believe that as long as employees are motivated, happy to work and have chances to learn and grow; they are capable of contributing more than they think they can achieve. The team will be shifting from their current office space to the Learning Centre in TVT. This new space is being done up with bright colours, motivational posters and soft music to create a lively ambience. Thus ensuring that as the agents get a better experience at work, so do the customers they interact with. There are plans to have a Karaoke corner, Xbox and a mini library – where agents can relax and unwind.

Business-wise, CD is exploring several business partner options; one of which is with Chinese leader in the space of warehousing solutions - Lift-star. The team is also looking at automation to move products around within warehouses and innovative racking solutions that can be offered to customers. They will be expanding geographically, a process that has already started with the inauguration of a small office in Roorkee. Recruitment is on now for Ahmedabad, where an office will be set up in Sterling Abrasives' premises. The next targets are Pune and Delhi. From 2.96 crores in FY 14-15, and 10 Crores in FY 15-16; CD now aims for 18 crores this year and 50 crores by 2020. An e-store is also on the cards, which will support the direct sales initiative. The online store will be an active entity which will help drive offline business for CD. Join us in sending more goodwill CD's way, so they achieve and surpass their targets!

# Wendt acquisition of Star

CUMI subsidiary, Wendt India Ltd has successfully completed the acquisition of diamond dressing tool business of Star Diamond Tools for Rs 3 crore, in March 2016.

The acquisition of Star's diamond tools business would strengthen Wendt India's presence in Stationery dressing tool business and help enhance the product basket.

Promoted by Girish Zaveri, Star Diamond Tools Private Limited has its manufacturing facility at Deonar, Mumbai. Over 50 years old, the company is a leader in its field and exports products to Europe and USA.

Post acquisition, Wendt's Technical team underwent a 45 day training program at Star's facilities.

Machinery, assets and stockpiles were transported to Wendt in March and set up within the Hosur plant premises. The production line is now operational at the new premises. As part of the agreement, WIL will now be servicing Star's existing customers, and using the same suppliers. This will enhance WENDT's customer base too, as the existing product line will now be offered to Star's customer base.





# **1945**: QUALITY, HEALTH AND SAFETY

# INTERNATIONAL CONVENTION ON QUALITY CONTROL CIRCLE

#### **WENDT**



Participants at the International Convention on Quality Control Circle (ICQCC) by QCFI. 4 participants from WENDT at Korea in the Korean Standards Association in Kaizen & SGA categories.

# FITNESS → HEALTH → HAPPINESS

#### **SUPER REFRACTORIES - I**



FHH - National Edition - Prize Distribution Ceremony for all the Winners & Lead Anchors

#### **WENDT**



Annual Health Camp by Clumax Diagnostics, Bangalore at Wendt Plant.

Employees aged 35+ years participated.

#### **ABRASIVES - MARAIMALAI NAGAR**



Vaccination given for all employees

#### **WENDT**



Free Cardiac Health Camp by Narayana Hrudayalaya for employees.

# **10K CHALLENGE AWARD**

#### **SUPER REFRACTORIES - II**



10K Challenge - National Level Edition Award Function. Winners received bicycles, trophies, medals and wallets. K. Srinivasan, MD, R. Rajagopalan, EVP - SR & PD & M. Muthiah, EVP - HR participated in the function and gave away the awards.

# SAFETY AWARDS

#### ABRASIVES - MARAIMALAI NAGAR





As part of safety week celebrations, a get-together was organised with fun activities, a session on the importance of TPM & an awards ceremony for safety awards.

# HEALTH AWARENESS PROGRAM

#### **ABRASIVES - THIRUVOTTIYUR**





Dr. P. Senthil Kumar, Senior Assistant Professor, Institute of Surgical Gastroenterology & Liver Transplantation, Government Stanley Hospital, Chennai; conducted a Health Awareness Programme on Gastroenterology.



Due to floods, TT Vaccination was given to all employees to prevent infections/diseases.

# TRAINING - FIRST AID

#### **SUPER REFRACTORIES - II**



St. John Ambulance Association, Chennai gave training to SR II Employees

#### **ABRASIVES - THIRUVOTTIYUR**



First aid training for security guards and non woven employees was conducted

# TRAINING ON FIRST AID

#### WENDT



Training on First Aid programme conducted at Wendt. 30 Employees participated.

# TRAINING ON SAFETY

#### **WENDT**



Mock drill at Wendt Plant





#### ABRASIVES - SRIPERUMBUDUR



Boiler mock drill



Safety training for contract employees



EMS-OSHAS internal audit by A. Murugappan, GM - Safety

# FIRE FIGHTING DEMONSTRATION

#### **SUPER REFRACTORIES - I**



Fire Fighting Demonstration at Super Refractories - I

#### **INDUSTRIAL CERAMICS**



As a practice, once in 6 months, a Mock Drill is conducted. This is to ensure that all employees are aware of the Emergency handling procedure at IC, in case of any emergencies.

#### WENDT



Fire Fighting Training programme conducted

#### **ABRASIVES - MARAIMALAI NAGAR**



Fire mock drill at Maraimalainagar plant

# **OHS:** QUALITY, HEALTH AND SAFETY

# QUALITY MONTH CELEBRATION

#### **INDUSTRIAL CERAMICS**



Quality Month celebrated in November with many programs and events. Employees from IC division actively participated.

5S Training program was conducted for internal auditors.





5S - Training program was conducted for CUMI vendors.

Employees participation in KAIZEN competition which was part of quality month celebration



#### **ABRASIVES - THIRUVOTTIYUR**



Sivakumaran MV, VP - MFG sharing his message on the Importance of Quality and "Purpose, Process, People"

# **QHS**: QUALITY, HEALTH AND SAFETY



Employees participated in Skit competition as part of Quality Month Celebration

#### **WENDT**







Quality Month Celebrations at Wendt Plant

#### **ABRASIVES - MARAIMALAI NAGAR**



Quality Month celebration at Maraimalai Nagar plant

#### ABRASIVES - SRIPERUMBUDUR



Quality Month celebration at Sriperumbudur plant.

#### **SUPER REFRACTORIES - II**

# Q MONTH CELEBRATION



Q-Month inaugural function celebrated at Serkadu. Month long competitions were conducted amongst employees (slogan, skit, quiz, suggestion, story telling etc)

# QUIZ COMPETITION ON QUALITY

#### **CUMI-JABALPUR**

Organised quiz competition on quality for operatives and contract labour. Conducted by Aditya Garg, DM-HR



# TPM TRAINING PROGRAM

# 7 QC TOOLS

#### ABRASIVES - MARAIMALAI NAGAR





TPM training program organised

#### **SUPER REFRACTORIES - I**



Classroom Session conducted by Sudip Kumar Paul, Manager - Technical for all GETs and Team Members from Super Refractories - 1

#### **SUPER REFRACTORIES - I**

# INTERNATIONAL YOGA



Yoga Demonstration at Ranipet Plant to offer relief from work stress and bring Harmony. Yoga Trainer was from Isha Yoga Centre, Ranipet.

#### **ABRASIVES - HOSUR**

Yoga and outbound training for all MS at Yercaud



#### INDUSTRIAL CERAMICS

## TQM DAY





Monthly TQM days are conducted during which various competitions are held like suggestion, kaizen, 5S and on TPM related topics. The winners of TQM day are awarded at the time of the quarterly communication meeting.

#### **SUPER REFRACTORIES I & II**







Quarterly communication meeting & Q-month valedictory function at Serkadu. Both plant (SR-1 & SR-2) employees participated.

# **ENERGY HOUR**

#### **ELECTRO MINERALS - KORATTY**



Energy Hour celebrated at Koratty. A R Satheesh - Plant Head, addressed the gathering

#### **SUPER REFRACTORIES - II**





Energy Hour celebrated at SR-2 plant Serkadu. NGO - Family village farm received the items conducted by employees (cosmetics, medicines, provisions) etc

#### **ABRASIVES - UTTARAKHAND**



Energy Hour celebrations at Uttarakhand

# **ENERGY HOUR**

#### **SUPER REFRACTORIES - JABALPUR**



Was celebrated jointly with Chola MS and Chola Vehicle finance, at CUMI Jabalpur

#### WENDT



Group's Annual Event - Murugappa Energy Hour celebrations at Hosur. All Hosur location employees, CUMI-IC, CUMI-Bonded & Wendt, TII & Chola MS participated.

# QUARTERLY COMMUNICATION MEETING

#### **WENDT**



Quarterly Communication Meeting conducted at Wendt.



# **ACHIEVERS GALLERY**

#### **INDUSTRIAL CERAMICS**



CUMI IC Achievers - Winners of the recognition program receiving the award.



#### **WENDT**

# REVIEW ON EMPLOYEE ENGAGEMENT



Review on Employee Engagement Survey Action Plans. Ramesh Menon, Director-HR at the Murugappa TQM Shrine, Wendt Plant

# **REWARDS AND RECOGNITION**

#### **ABRASIVES - HOSUR**





Hosur Bonded - Rewards and recognition for various projects and low cost automation

## **AWARDS**

#### **INDUSTRIAL CERAMICS**





CUMI IC team, won the ABK-AOTS 5S Model Company Award at Chennai



Winning of awards by our employees during Murugappa Best Practice Competitions. Received awards for the Project: "Exponential growth from cement plants – Exports market through innovative product offering" by Harikrishna Sharma & Saurav Satnalika. A.R. Murugappan, R. Ayyappan & K Gopi for "Mechanisation of Tile Cleaning Process" at Chennai



Prabhakaran & Ramasundaram from IC team received the Best Quality Supplier Award received from ABB India Limited,

# SALES & MARKETING

#### **ABRASIVES**



Prabhat Kumar, receiving the "Best performer award" for the first quarter from Srikanth C, VP - Sales and Marketing



Harihar, receiving the "Best performer award" for the second quarter.



Mayank Agarwal receiving the "Best performer award" for the second quarter.

# **BEST CSR AWARDS**

#### **SUPER REFRACTORIES II**



Super Refractories, Plant-2, received BEST CSR AWARD from Engineers Without Borders India – Chennai Chapter during their Engineers' day Celebrations held at AC Tech, Anna University, Chennai. S. Velappan, AVP-MFG received the award from D. Gokul – President EWB. We were one among 5 corporates which were nominated for this prestigious award. In the finals, 3 companies were selected and awarded.

# STAR PERFORMER AWARD



WENDT received National Award for Manufacturing competitiveness (NAMC). Silver Medal received by Rajesh Khanna, J.H. Sastry and M.S. Venkatesh at Chennai.



ASSOCHAM's ICAI - SME's CSR Award received by WENDT senior Management at New Delhi.

# **QCFI AWARDS**

#### **WENDT**



6 Teams Participated in Quality Circle Competitions organised by QCFI, Bangalore, 4 Teams were awarded Gold Category Award and 2 Teams received Silver Category Award

#### **INDUSTRIAL CERAMICS**



Quality Circle Forum of India QCFI – Bengaluru chapter conducted competition on Six Sigma, Poka Yoke, Kaizen Display and Innovative Model display. Two Teams from IC participated at the Kaizen Display competition and won two Golden Awards.

# CII INNOVATION AWARDS

#### **INDUSTRIAL CERAMICS**



IC received Recognition from CII as one of the Top 25 innovative companies in India in the Small & Medium Scale Industry Sector. Dr. Shyam S Rao and Ramasundaram received the award at Shangri - La's Eros, New Delhi.

# CII BUSINESS EXCELLENCE AWARD

#### **WENDT**





Wendt received CII
Business Excellence
Award - for strong
commitment to
Award was received
by Rajesh Khanna,
M.S. Venkatesh,
J.H. Sastry, D.K. Hotta &
H.K. Prasannakumar.

## **EXHIBITION**

#### **INDUSTRIAL CERAMICS**



CUMITHERM Ceramics were exhibited in an expo at China, which finds wide range of applications in Die Casting Industries. Cumi Ceramics attracted many visitors to our stall & several new prospects have been found in the China market for CUMI THERM Ceramics. Ramasundaram Sameer from IC Marketing team, at Shanghai, New International Expo Centre (SNIEC), CHINA



CAMME EXPO: CUMI IC Division along with Super Refractories and Electro Minerals participated as GOLD sponsor in 79th Annual session of Indian Ceramic Society & International Conference on 'Ceramic & Advanced Materials for Energy and Environment' organized by Indian Ceramic Society, Karnataka chapter at Karnataka







CUMI - IC participated in Powergen Thailand exhibition which was a platform to meet key OEMs and user industries such as Doosan, Hitachi, MHPS, Babcock who were there besides major power producers.

# LEARNING CORNER

#### **ABRASIVES - HOSUR**



Material Handling Training programme for contract employees by Ex. Safety Manager of MALCO

#### **ABRASIVES - HOSUR**



A. Murugappan, GM - Safety, conducts a Mock Drill / Safety training

#### **ABRASIVES - SRIPERUMBUDUR**





Material handling training for all NMS

#### **ABRASIVES - THIRUVOTTIYUR**



TPM training by E. Karthick, AGM - TPM.

#### **ABRASIVES - UTTARAKHAND**



Briefing on First Aid and work place safety by SP Singh, Secretary, Uttrakhand Productivity Council

# PERSONAL EMPOWERMENT PROGRAM

#### **SUPER REFRACTORIES - II**



Personal empowerment program organised on topics - work life balance, communication, interpersonal skills & Team work. V. Sivakumar - GM-HR (CORP) was the trainer

#### **HIGHLIGHTS**

#### **INDUSTRIAL CERAMICS**

# **VISITS**







Delegates from TITAN Industries, visited Hosur factory to Understand the Best Practice Methodologies like TPM & 5S.



JFE Team from China visited CUMI IC. JFE Team: Wansheng Wang, Assistant of President of JFE group and VGM of JFE Hefei Plant, Zhonghua Guo, President of JFE designing institute, Shupan Zhou, GM of JFE









Tavrida Electric Team visited CUMI IC

#### **ABRASIVES - MARAIMALAI NAGAR**







Plant visit by Kasturi Hospital for 5S

#### **ABRASIVES - HOSUR**

# JAPANESE VISITORS



Japanese Visitors from Noritake, Japan at Hosur Bonded

# **HIGHLIGHTS**

#### **ABRASIVES - MARAIMALAI NAGAR**





Chairman M.M. Murugappan during his visit to Maraimalai Nagar plant

#### **ABRASIVES - SRIPERUMBUDUR**







Chairman M.M.Murugappan during his visit to Sriperumbudur plant

# SHARE HOLDER'S PLANT VISIT

#### WENDT



#### **ABRASIVES - HOSUR**



TPM Consultant, P.M. Janagiraman visited Hosur



Motivational speech by Sankaranarayanan, DM - HR to Job aspirants in rural areas of Dharmapuri

# INSTALLATION OF RO UNIT

#### **INDUSTRIAL CERAMICS**





Installed Industrial Water Purifiers (RO) – 50LPH with 3 years AMC at Panchayat Union Middle School, Badarapalli, Hosur to provide safe drinking water to the students. Around 600 students from two schools will benefit out of it.

#### **SUPER REFRACTORIES - II**

SR-2 Plant contributed RO Plant 250 Ltr/phr cap & 50 Nos benches & desks to Govt Hr. Sec School, Serkadu for around the value of Rs. 1,75,500/- under SSS scheme.





#### **ABRASIVES - THIRUVOTTIYUR**





Installed new RO Iron removal plant at Thiruvottiyur Plant

#### **ELECTRO MINERALS - KORATTY**

# VANAYATHRA



As part of the environment month celebration, arranged a forest trip to PERUMPARA

# CORPORATE SOCIAL RESPONSIBILITY

#### **INDUSTRIAL CERAMICS**

# TRAFFIC WARDEN



IC employees have voluntarily participated in Hosur Traffic warden service at Krishnagiri and they were recognised by the Traffic Police Department

#### **SUPER REFRACTORIES - II**

# **BIG CLEANING DAY**



Organised cleaning of entire plant and removed unwanted items kept in Red-tag area.

All department employees were involved for this TEI. SR-2 Plant- Serkadu

#### **INDUSTRIAL CERAMICS**

# 5S AT SCHOOL



5S Training program conducted at PUM School, Badrapalli. 225 parents of school students' have participated in this program.

# WORLD ENVIRONMENT DAY CELEBRATION

#### **KORATTY**



In Connection with Environment month celebration Inaugural function was held. There was a speech by Suneel Pamidi (DFO Chalakudy) & Plants Distribution by Sadanandan, Forest Range officer - Chalakudy.

#### **CORPORATE SOCIAL RESPONSIBILITY**

# **BLOOD DONATION**

#### **INDUSTRIAL CERAMICS**



For the 7th year, blood donation camp was held in association with Rotary Club and Govt. Hospital Krishnagiri. Around 80 employees donated their blood.

#### **SUPER REFRACTORIES - I**



On the eve of "National Voluntary Blood Donation Day", Tamilnadu State Aid Control Society and Tamilnadu Blood Tranfusion Council organized camp at District Collectorate, Vellore, under the Presidentship of District Collector R, Nandagopal, Vellore. R. Ravindranathan, BTC Retainer on behalf of CUMI SR received Appreciation Certificate & Medal from Collector Office, Vellore for Organizing "Blood Donation Camp" every year both at Ranipet & Serkadu Plants as "Regular Voluntary Blood Camp Organizer".

#### **SUPER REFRACTORIES - II**



To mark Blood Donor's Day, Government Medical College, Vellore held a blood donation Camp at SR - II. 34 employees donated.

#### **ABRASIVES - UTTARAKHAND**



Tree plantation by employees

# CORPORATE SOCIAL RESPONSIBILITY

# CHILDREN'S DAY CELEBRATION

#### **KORATTY**



As part of Children's Day Celebrations, various competitions were held for children at two nearby schools. Biju Isaac-Plant Head, distributes the Prizes.

# FLOOD RELIEF

#### **ABRASIVES - THIRUVOTTIYUR**







500 food packets distributed to the people affected by rain in Dr. Ambedkar Nagar and areas affected by flood, in Thiruvottiyur

# INTERNATIONAL WOMEN'S DAY CELEBRATION

#### **ABRASIVES - THIRUVOTTIYUR**



V. Ananthaseshan, President giving the inaugural speech

Chief guest Vijayalakshmi, Sr. AVP, GCC addressing the gathering









#### **EMPLOYEE CORNER**

# **NEW YEAR CELEBRATION**

#### **KORATTY**





As part of the New Year Celebration of our plant, tree decoration & a Memory sharing session was conducted for all staff.

#### **ABRASIVES - SRIPERUMBUDUR**





New year celebration on the shopfloor

#### SUPER REFRACTORIES - I

## BIRTHDAY CELEBRATION



# AYUDHA POOJA

#### **INDUSTRIAL CERAMICS**





Ayudha Pooja Celebration and Sweet distribution during the Pooja

#### **ABRASIVES - HOSUR**



Ayudha Pooja celebrated

#### **SUPER REFRACTORIES - I**



Celebrated Pooja at Vinayagar Temple, Admin Office and Shop Floor

#### **SUPER REFRACTORIES - II**



Ayudha Pooja celebrated at Super Refractories - II

# REPUBLIC DAY CELEBRATION

#### **ABRASIVES - SRIPERUMBUDUR**



Republic Day at Sriperumbudur. Plant Head - Sunil Kumar hoisted the flag

#### **ABRASIVES - THIRUVOTTIYUR**



Republic Day Celebration at Thiruvottiyur. Plant head - K.M.Natarajan hoisted the flag

## **WOW PROJECT**

#### **ABRASIVES - HOSUR**



As part of 'WOW project', Scrapyard was converted into playground

## FUN HOUR CELEBRATION

#### **ABRASIVES - SRIPERUMBUDUR**



Fun hour celebration at Sriperumbudur plant. All employees participated.

#### **ABRASIVES - UTTARAKHAND**

# SPORTS MONTH



# **FAMILY PICNIC**

#### **ABRASIVES - SALES & MARKETING**



Picnic for Delhi and Haryana employees along with their families.

# **CRICKET**

#### **CUMI JABALPUR**



CUMI Jabalpur conducted internal cricket matches department wise at Vidya Nagar GCF ground at Jabalpur. All employees and workmen participated in sports.

#### **WENDT**

Participation in MGTC - Women Sports Events at Chennai

Carrom Doubles:

Winners - M.Subhashini & MM Bhuvaneshwari

Shotput: 2nd Prize – P. Kanmani Lucky Corner 3rd Prize - Varalakshmi



Participation in MGTC Cricket tournament - Wendt Cricket Team has won Runner-Up award at Chennai

#### **ABRASIVES - THIRUVOTTIYUR**



Cricket Match between Thiruvottiyur, Maraimalainagar, Sriperumbudur, CSS and HO at Vellayan Chettiyar School



Sriperumbudur Team -Runners up



CSS team - Winners

# TABLE TENNIS

#### **ABRASIVES - THIRUVOTTIYUR**





Inauguration of table tennis court by Ananthaseshan, President, Sanjay Chandran and Ananthaseshan playing a match

